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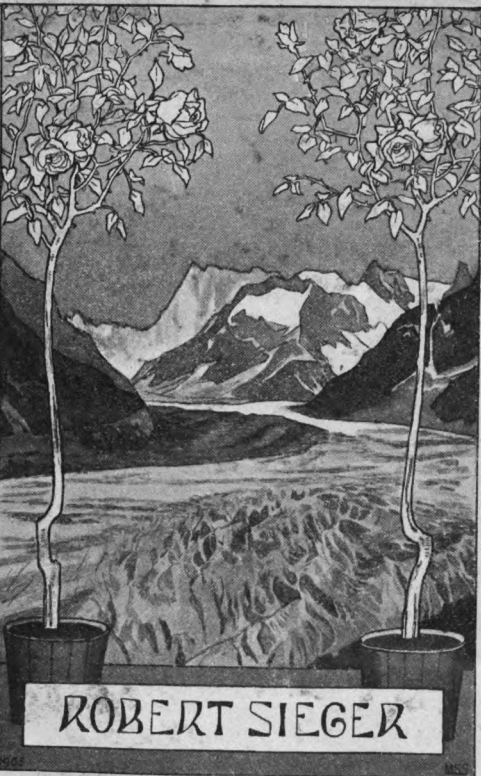
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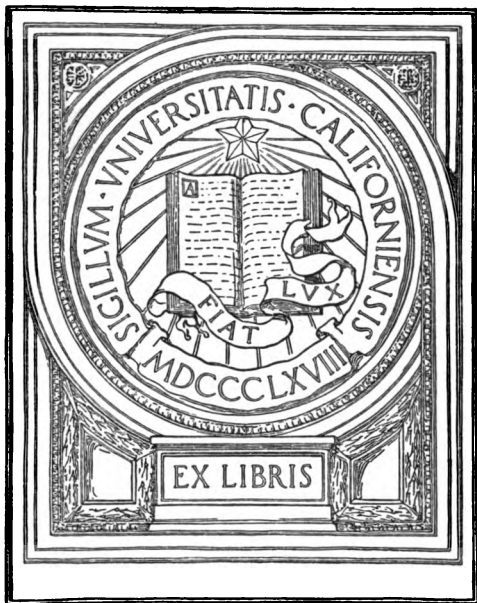


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THE RIVER KARÚN.

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THE RIVER KARUN

AN OPENING TO BRITISH COMMERCE

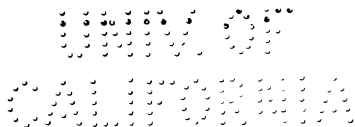
BY

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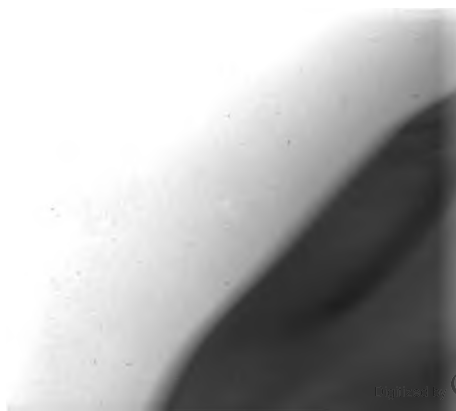
AUTHOR OF "A PERSONAL NARRATIVE OF THE EUPHRATES EXPEDITION"



LONDON

W. H. ALLEN & CO., 13, WATERLOO PLACE
PALL MALL, S.W.

1890



THE RIVER KARUN

AN OPENING TO BRITISH COMMERCE

BY
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ESQ., F.R.S., F.R.G.S.

CORRESPONDING MEMBER OF THE IMPERIAL SOCIETY OF ENGLAND, AND OF
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TO
THE MOST HONOURABLE
THE MARQUESS OF SALISBURY, K.G.,
PREMIER OF ENGLAND,
To whose enlightened initiative the opening of the River Karún
to the commerce of the world is due, this little work is
Dedicated by his most humble servant,
THE AUTHOR.

M94457

P R E F A C E.

THE opening of the river Karún to navigation is a matter of greater importance and significance than is generally supposed.

It is a question of opening the whole of a vast empire, with many millions of inhabitants, to consume our manufactures, and with rich and rare products to give in exchange to commerce with Great Britain and India.

It is a question of rivalry between the colossal power of Russia, which is straining every nerve—by its Trans-Caucasian railways, its navigation of the Caspian, and the opening of roads thence to the interior of Persia—to monopolize the commerce of Persia, and of supplanting that commerce, or, at the least, ensuring a fair share in the same.

Teheran is the modern political capital of

the country ; but it is not the natural or ancient one. That was Ispahan.

Persia derives its name from Fars — the modern Farsistân — in which province lie Bushire, Shiraz, Ispahan, Muhammrah, and Shuster, and the ancient cities of Susa, Persepolis, and Elymâs, the renowned capitals of bygone dynasties.

All along the uplands which constitute Persia proper, and at the head-waters of the Karûn and its tributaries, lie the chief towns of the country : Khoramâbâd, Burujird, Kirmanshah, Hamadan, Kum, Kashan, Gulpargan, and others, all approachable by opening roads across the mountains to the centre of the wealth and industry of the country.

Teheran, Tabriz, Ardabil, Kasbin, and a few other towns, come more closely under Russian influence, being situated to the north ; but once open commerce from the south, with the central and southern regions—with Persia proper—and that of the north would, by the force of circumstances, the geographical relations, the affinity of peoples, the ties of antiquity, blood, and relationship, and the agricultural and industrial

interests of the country, be superseded by that of Great Britain and India.

Little did we think at the time of the first expedition for the survey of the Rivers Euphrates and Tigris, including that of the Karún, that such labours would result in no practical purport either in railway extension or in navigation. True, that the river Euphrates has since been several times navigated, and further explorations effected, and that a company was constituted to carry out a railway from the Mediterranean to the Persian Gulf; but Her Majesty's Government did not see their way to guaranteeing the execution of such a project, although the necessary funds could have been easily raised under the protection of such a guarantee. The directors of the company did not, under these circumstances, feel justified in making an appeal to the public for support, and the whole thing fell through.

There is consolation, however, to those who worked in the cause in the fact that, although the original scheme has not been carried out, the interest in the rivers has never been dormant, and the navigation and commerce of the

Persian Gulf, and of the lower part of the rivers, have received an impulse which is likely now to go on developing itself to an unlimited extent.

The navigation of the Tigris to Basrah and Muhammrah was carried on for many years by Government steamers, and, thanks to the exertions more particularly of the Lynches—one of whom, Captain Blosse Lynch, C.B., was second in command of the first expedition, and another, T. K. Lynch, is chairman of the Euphrates and Tigris Navigation Company—the navigation of the rivers has been continued, and a very great impulse given to British commerce in these most promising regions.

A climax to the trade with the lower rivers and the Persian Gulf may be said to have been attained by the treaty with Persia, effecting an opening to commerce and navigation of the river Karún. The roads from Baghdad to the interior of Persia are only just practicable and those from Bushire to Shiraz are little more so; the opening of the Karún not only shortens the route of communication to a very important extent, but it affords, as we shall

have occasion to show, greater facilities of communication. It is true that the intercommunication has as yet been cramped by the absurd and narrow-minded jealousies of both the Turkish and Persian Governments: the one only allows of two steamers plying on the Euphrates and Tigris, the other wishes to limit the navigation of the Karún to Ahwáz, or Bund-i-Nasariah, as it is now called, after Nasr-ed-din, the present Shah. But time will remove these checks upon enterprise. The Turks will do nothing themselves; the Persians, with their German steamer the *Susa*, will soon find the necessity of employing British skill and science—the advantages of the opening of commerce to the welfare and prosperity of the people, and to the improvement of the Government treasuries, will soon bring about an altered state of things. All know how small, at first, were the beginnings of commerce in countries now playing a part in the history of the world. So it will one day be with the rich provinces of Susiana and Elymais, and with the ancient, but once populous and prosperous, lands of Khaldæa, Babylonia, Mesopotamia, and Assyria.

The impulse may not come from above, as originally projected, but it will most assuredly come from below. The rivalry between Russia and Great Britain and the Anglo-Indian Empire, in opening the commerce of Persia, can only, in the dearth of railways, be met by openings in the south—Russia almost monopolizing the northern approaches—and the opening of the Karún will probably reflect more credit and renown upon the foresight of the Marquess of Salisbury than probably any other act of a long Government devoted to the true interests and welfare of the country. What is especially wanted at the onset after the opening of the navigation of the river is the construction of new roads. Persia is strangely in arrear as compared with other countries, and has scarcely any roads worthy of the name of such. We shall have occasion to enter into details upon this subject, but in the meantime we may mention a fact as related by Colonel Champain, highly illustrative of the losses entailed to both the people and the country from the want of means of transport.

“As an illustration,” says Colonel Champain

“of the enormous loss Persia annually sustains from her defective means of carriage, I may mention that when, a few years ago, Major the Honourable George Napier visited Kirmanshah he found eighty thousand tons of wheat stored, of little value to any one, on account of the impossibility of removal.

“The price of wheat at Kirmanshah was seven krans for seven hundred pounds, while at Teheran or Bushire it is never less than thirty or forty, and usually much more.

“In exchange for the above-mentioned eighty thousand tons of grain, no less a sum than seven hundred thousand pounds sterling might have passed into Persian pockets, had it been possible to convey the corn to Muhammerah.”

As Captain Selby—the most successful of the early navigators of the Karún—pointed out “an extremely healthy and productive region, friendly tribes on the banks of the rivers, the country fertile in objects of interest both to the merchant and geographer. Our present political relations with Persia considered, all tend to point out these rivers as the means whereby we may not only increase our political power, but

our commercial advantages; for so long as we can, as we now do, entirely command the access to these rivers, our perfect and easy navigation of them will ever be considered by both the authorities and the people."

If any political movement is to be attempted in this quarter, more particularly in reference to the vast strides made by Russia—if the spirit of discovery and research continue to actuate, as it ever has done, our Government—if a material increase in our commercial relations with Persia is considered of any moment—if the connection of ancient with modern history, in some of its most interesting points, still continue to hold out charms to the antiquarian and the geographer—then is this country one of those which should be most particularly examined, and which would yield a most abundant harvest.

Again, if it is still our wish to extend our commerce, whereby we exist, or our influence in those regions, the want of which we may perhaps ere this have felt, or our knowledge of the statistics of this most interesting country, these rivers present the means whereby all this may be accomplished.

Here we have neither hostile Arabs, rapid currents, nor shallow fords to contend with ; but rivers easy of navigation and abundantly wooded offer every inducement.

A commercial treaty entered into with Persia, our steamers running on the rivers of Mesopotamia, and those rivers strictly in the Persian dominions, having been easily and safely traversed by vessels possessing much less capabilities for river navigation than the boats now built for the purpose—having, indeed, been ascended by a hostile Anglo-Indian flotilla as far as Ahwáz—what prevents us from commencing that intercourse with the inhabitants which their advance in civilisation and our own interests so imperatively demand ?

“It is, indeed,” said Captain Selby, “a source of extreme wonder and surprise to me that they, being, as it were, the high-road into the very heart of Persia, with which we now take such a roundabout method of trading, should so long have been neglected, and that we should have so quietly shut our eyes to their vast importance. Russia, though struggling with a tedious land carriage (soon to be superseded

by the facilities of railways), supplies even the markets of their remote provinces with European articles which we could much more easily do by water at once from England or our colonies.

It is time, then, to be up and stirring, if we would not be entirely and utterly shut out from all participation in the commerce of these extensive, rich, and fertile realms. It is pleasant to know that the beginning of an *entrepôt* has been founded at Ahwáz, or Bund-i-Nasariah, as the Shah has called it, after his own name, Nasr-ed-din, so great is the personal interest he takes in the opening of the navigation of the Karún, that the steamers of the Euphrates and Tigris Navigation Company are plying upon the lower part of the river, and that a Persian steamer, or a German steamer under, for the nonce, Persian navigators, is prepared to ply upon the upper waters.

We have felt that, under the circumstances, the public must entertain a justifiable desire to become better acquainted with the character of the basin of the Karún itself, and of its tributaries, of the towns and regions around, and

particularly of the passes through the Kurdistan Mountains—the ancient Zagros—into the interior of Persia.

Having myself ascended the river as far as Bund-i-Kir—the point of union of the tributaries of the Karún—and having explored a good deal of the surrounding country, especially the vast tract held by the Cha'ab Arabs, and which includes the whole delta of the Karún, I have felt that, with the aid of the records of other explorers—more particularly General Chesney, who was unquestionably the pioneer of the opening of the river to navigation, of the laborious, learned, and exhaustive researches of Sir Henry Rawlinson and Sir Austin H. Layard, and of the labours and enterprise of Captain Selby, Mr. G. S. Mackenzie, Captain Wells, R.E., Colonel Bell, and others—I might succeed in putting together in, it is to be hoped, an acceptable form what is known of these interesting regions of vast renown in antiquity, but new to British commerce and British enterprise, to both of which they hold out immeasurable prospects for the future.

The mail steamers, as Sir R. Murdoch Smith

pointed out in his address to the London Chamber of Commerce, of the British India Steam Navigation Company, have literally created the trade of the Persian Gulf, in which many other steamers now share.

The tonnage employed between the United Kingdom and the Gulf, which in 1870 was only 1,200 tons, had by the year 1886 increased to 70,000 tons, an increase of nearly 6,000 per cent in sixteen years.

Mr. Mackenzie, formerly of the firm of Messrs. Gray, Paul & Co. of Bushire, whose experience of Persia enables him to calculate very closely the cost of caravan transport, believes that, were the Karún opened to Shuster, his firm could deliver goods at Ispahan at thirty-five kran (a kran being worth 10*l.*) per load of 350 lbs., as against sixty kran per load sent from Bushire to Ispahan *vid* Shiraz; and he estimates that, under such conditions, trade by the Suez Canal would beat that by the north completely out of the field.

The present work may be regarded as a supplement to the writer's "Personal Narrative of

the Euphrates Expedition," called for by the exigencies of circumstances.

The River Karún described in that work as first navigated by the steamer *Euphrates*, has since been opened to the commerce of the world, and this constitutes a fact of such great political and geographical, as well as commercial, importance as to demand a more minute and detailed description of the river and its tributaries and of the adjacent country, of the prospects opened to commerce by its free navigation, and of the mountain passes by which the interior of Persia has to be reached from the river.

It only remains to state that there has been so much asperity shown by critics in regard to the different methods pursued in rendering Oriental names into Roman letters, that the writer has deemed it best, when quoting from others, to leave with each the responsibility for his own orthography. The synonyms are, however, given in the index.

CONTENTS.

PART I.

THE RIVER KARÚN AND ITS TRIBUTARIES.

CHAPTER I.

PAGE

Rivers come from the Uplands beyond the Great Mountain Chains—Artificial prolongation of the Karún River—The Khoaspes—The Ulai or Eulaeus—The position of Susa between the two—The Shapúr River—The embouchure of the Rivers—The River of Dizfúl and its tributaries	3
--	---

CHAPTER II.

The Town of Dizfúl—Extortion of the Chiefs—Still the Principal Market of Khuzistán or Susiana—A Sasanian Town—Arab and Rayah tribes .	12
---	----

CHAPTER III.

	PAGE
The Karún—The Kor Kanūn—The Ab-i-Bors— The Fire Temple of Shushan or of the Greater Solomon—The two Tombs of Daniel—Reser- voir and Sacred Fish—The Gilgird Mountains and Castle—The Relics of Mal-i-Mir—Sus, Shus, Susan, or Shushan—The Jadahí 'Ata'beg —Ancient Pass of the Mountains	19

CHAPTER IV.

The Plain of Akílf—The Castles of Rustam and of the Maiden—Naphtha Springs and Fire Temples — Lesser Mosque of Solomon — Temple of Nanea—Anahíd and Azara—Fate of the Antiochidæ—Tradition of Nimrod and Abraham—The Asylum Persarum—The Sun- bulah or ear of corn	29
--	----

CHAPTER V.

The Masrúkán, Du Dangah, or Ab-i-Gargar Canal —Various bunds or dams—The bund, Púl and Tak'ht-i-Kaisar—Associated with Valerian— Tunnels—The Shadarwan—A paved Reser- voir	38
--	----

CHAPTER VI.

The Castle of Shuster—Character of the Shusterís —Their local Chiefs—Captain Selby's Experi- ence of the People and Country—Great Hos- pitality and Generosity—Leaning towards the English—Political importance of Shuster	46
--	----

CHAPTER VII.

	PAGE
Revenue of Khuzistán—Sele (Ahwáz)—Shuster, “Little Shus”—Prolongation of the Ab-i- Gargar—Bund-i-Kir—Selby's navigation of the Dizfúl River—Presents an easy access to Dizfúl—The Koprates of the Greeks— Campaign of Antigonos and Eumenes . . .	57

CHAPTER VIII.

The Pasitigris—Movements of Alexander the Great—State of Rivers at that period—Sus, Shus, or Susa—Traditions of Memnon— Shushan, “the Lily.”	70
---	----

CHAPTER IX.

Susa—Chesney's Account—Sir Henry Rawlinson's —Loftus's Researches—Dieulafoy's Discoveries —Archer and Lion friezes—Akhaemenian Royal Seal—Persepolitan Column—The Black Stone of Susa—Nature and Origin of Meteor- ites—Aggregated in Nebulæ	78
---	----

CHAPTER X.

Town of Waís—Ahwáz or Nas'ariah—Ledges of rock and dam—Proposed Canal—Present state of the Town—Bridge at exit of Ab-i- Gargar Canal—Ruins of olden times . . .	93
--	----

CHAPTER XI.

Ahwáz, a Nestorian Episcopacy—Ancient Sugar Factory—Captured by an Anglo-Indian force —Under a Sheikh of the Cha'ab Arabs— Country around—Great salubrity—Ascent of the <i>Blosse Lynch</i> —Persian Steamer <i>Susa</i> — Future Prospects	PAGE 103
--	-------------

CHAPTER XII.

General Course of the Karún—Towns and Villages along its Banks—The Karún-al-Amah, or "Blind Karún"—Ka'aban, or Gaban Canal— The Cha'ab or Ka'ab Arabs—The Bahmshfr— Its navigability—The Delta of the Karún	III
---	-----

CHAPTER XIII.

The Haffar Canal—Muhammrah—Its position most advantageous as a Commercial Port—Inde- pendence of its Sheikh—Ancient state of the Estuary of the Karún, Tigris, and Euphrates— A vast Lacustrine Expanse—Islands of Mes- sene	118
---	-----

PART II.
THE MOUNTAIN PASSES.

CHAPTER XIV.

	PAGE
The great Commercial Routes to Central Persia— Petty Railways out of the question—Feasible Roads essential—The Karún the nearest ap- proach to Central Persia from the South— Comparative distances of Towns and Fertile Provinces	129

CHAPTER XV.

Character of the Country between Ispahan and Shuster—The first Pass that of Rukh—Pass of Zerze or Zara (Zagros?)—Plateau of Ardall —Group of lofty Snow-clad Mountains—Head waters of the Karún — The Tang-i-Siah — Luxuriant Vegetation — Dopulan, “the Two Bridges” — Forests of Oaks — Successive ascents and descents to Hilisat — Difficult descent to the Rudbar Valley—Parallel Valleys —Bridges at Shalil	136
--	-----

CHAPTER XVI.

Deh-i-Diz—Bridge on the Karún—Got-i-Balutak— A paved Way—Rah-i-Sultani—Another bad Pass—Mal-i-Mir—Mound, Sculptures, and In- scriptions—Caves with Sculptures—Sasanian Relics—Low Hills of Marls and Gypsum to Shuster—Remnants of Olden Times	144
---	-----

CHAPTER XVII.

	PAGE
The Mountain Passes from Shuster to Búrújird and Kûm—The Feili Lurs—A turbulent Chieftain—The Ab-i-Zal—The Upper Kherkah—The Kheolah Range—Gorge of Ab-i-Fani—Old line of Telegraphic Communication—Frequent attempts at Robbery—The insecure Dalieh Pass—Khoramábád—Capital of the Feili Lurs . . .	153

CHAPTER XVIII.

The Buluhan Range—Grassy Undulations and rounded Hills—City of Búrújird—Its Commercial importance—Country beyond Búrújird—Better roads and line of Telegraph to Hamadan—Tang-i-Tura—Sultanábád—Agricultural and Manufacturing District—Carpets and Rugs—Lofty Uplands—The Holy City of Kûm—A City of Undertakers	161
--	-----

CHAPTER XIX.

Summary—Muhammrah to Dizfûl—Dizfûl to Khoramábád—Khoramábád to Kûm—Estimated cost of a Cart-track—The most available Route to Central Persia—Political Contingencies of a more Northerly Route.	167
---	-----

CHAPTER XX.

Ancient Kingdom of Elymais—Route of the Macedonians, Parthians, Sasanians, and Atabegs—The Explorer of this Route in favour of that	
---	--

xxvii

	PAGE
by Búrújird—Route from Shuster <i>viâ</i> Bebehan and Ardakhan—The Bakhtiyari Lurs—Their friendly feeling to the English—Hostility to the Persians	173

COMMERCIAL PROSPECTS.

Absence of roads in Persia—Troikas from Teheran
to Kasvin—Chuppar-Khanehs or Post-Houses
—Commercial Exports and Imports—Minerals
—Naphtha Springs—The Animal Kingdom—
Fur-bearing Animals—Domestic Animals—
Camels—Horses—Yabūs or Ponies. . . . 183

Mules—Asses—Cows and Sheep—Dogs—Game
Birds—Aquatic Fowl—Fish—Vegetable Pro-
ducts—Fruits and Wine—Kurmasir (hot cli-
mate)—Sir-hūd (cold climate)—Corn, Rice,
and Grains—Trees and Shrubs—Vegetation
of the Uplands—Gum Ammoniac—Gall Nuts
—Assafoetida—Medicinal Plants—Flowers . 193

CHAPTER XXIII.

Colonel Champain's arguments in favour of the Navigation of the Karún River—Mr. Mac- kenzie's Experiences—Munificent offer of sup- port on the part of a Chief of the Bakhtiyaris —How to meet and encounter opposition on the part of the Persian Government—Navi- gation of the Tigris River—Navigation of the Persian Gulf	PAGE 205
--	-------------

CHAPTER XXIV.

Colonel Stewart on Russian Enterprise as contrasted with British Lethargy—Natural and Political Spheres of Enterprise—Lord Aberdare on the Passive Resistance of the Persians—Sir R. Murdoch Smith at the Chamber of Commerce —Prohibitive tariffs of Russia—Systematic Navigation of the Karún—Pack-road for Mules to Búrújird—Restoration of the Tele- graph Lines	214
--	-----

CHAPTER XXV.

Colonel Mark Sever Bell, V.C.—Railways will suc- ceed to Cart-roads—Extension of Free Navi- gation—Irrigation of the Country—Co-opera- tion of wealthy Persians—Radiating Roads— Vast importance of the Undertaking—Political Aspects of the Question—Not solely Anglo-Rus- sian, but concerning other Nations—Respon- sibilities of a British and Anglo-Indian Empire	224
---	-----

PART I.

THE RIVER KARÚN AND ITS
TRIBUTARIES.

CHAPTER I.

Rivers come from the Uplands beyond the Great Mountain Chains—Artificial prolongation of the Karūn River—The Khoaspes—The Ulai or Eulaeus—The position of Susa between the two—The Shapūr River—The embouchure of the Rivers—The River of Dizfúl and its tributaries.

THE river called Karūn by the Arabs, is known at its sources as the Kûh-i-rung, and hence that name abbreviated should be Kû-ran or Kûran ; but, as the navigable part of the river is best known as the Karūn, that name had better be retained.

It has, like all the chief tributaries to the Euphrates and Tigris rivers, its sources in the uplands or lofty mountains that bound the uplands, beyond that great chain which is best known by its ancient appellations of Zagros in its southern portions, Gordiæus in its central, and Niphates and Taurus in its northern parts.

It is the same with the Euphrates and Tigris

themselves, which have their sources in the Armenian uplands, the Greater and the Lesser Zab, the Kerkah and the Karún, which all alike force their way through rocky chains, which seem to be as a broken fringe to the vast uplands beyond, rising however beyond their level (except in the Persian Appenines, or the region between Bushire and Shiraz) and attain-
ing at times to very high altitudes, more especially in Central Kurdistan, the Gordyœan mountains, in the Ali Tagh, or Niphates, the Bulghar Tagh, part of Taurus, and even the mountains around Ardall—part of Zagros.

The Karún, flowing at one time direct to the Persian Gulf, is now made, by artificial means, to flow into the Shat-al-Arab, as the estuary of the Euphrates and Tigris is designated, and this circumstance of its being artificially so prolonged, is an important factor in the consideration as to whether its mouth or outlet is in Persian or Turkish territory.

But this prolongation of the Karún reported by the old Arabian and Persian geographers, as having first extended the river from its old mouth, now known as the Karún-al-Amah or

"the blind Karún," to the Bahmishír, and then by another cut, known as the Haffar canal, past Múhammrah to the Shat-al-Arab, is open to much doubt.

Múhammrah is, however, supposed to be a site of great antiquity, as Charax-Spasinaⁿ it was founded, according to Pliny (lib. vi. cap. xxvii.) under the name of Charax, or Charace, or Pellaeum, three Roman miles from the Eulaeus, and would therefore be nearer to the Bahmishír. It was restored by Antiochus, who gave to it his own name, but fell into the hands of the Arabs under one Pasines, classically designated as the son of Sogdonacus, and hence called Charax-Pasinaⁿ or Spasinaⁿ. Pliny, it is observed, speaks of Charax as being a town of Persia.

The river Karún was known to the ancients by the name of Eulaeus—the Ulai of Daniel viii. ;—but Pliny having described it as flowing round the citadel of Susa ; whilst Herodotus (lib. i. cap. 188) having said that the Khoaspes flowed through Susa, the question has been debated from olden times (see Cellarius, "*Notitiae Orbis Antiqui*," Vol. ii. p. 676) as to whether the Khoaspes and the Eulaeus were

one and the same or different rivers. Nor can the disputed point be said to have been definitely settled until our own times, when it has been shown that the Susa of Herodotus now marked by the Takht-i-Sulaiman, or "Throne of Solomon," lay between the Karún or Eulaeus and the river Kerkah or Khoaspes, at a point not far from Dizfúl, where the two rivers closely approximate to one another, so much so that one portion of the ancient city may have been washed by the waters of the Eulaeus, another by the Khoaspes.

Such a position is one of exceeding rarity, as the rivers after thus approaching so closely, diverge, the one to empty itself past Hawísa, into the lower Tigris, and the Shat-al-Arab, the other to gain the same estuary or the Persian Gulf. No wonder that there should have been a discrepancy among older writers. Cellarius advocating that as Danubius, and Ister, and Vierra, and Visurgis were the same, so were the Eulaeus and the Khoaspes. What is equally curious, is that Herodotus assigns to the water of the Khoaspes, the distinction of being favoured by the Persian Kings; whilst

Pliny declares that the kings would drink of no other water than that of the Eulaeus, and had it conveyed for them for long distances—a fact which is corroborated by Strabo (lib. xv. p. 1068). The same differences of opinion extended to the embouchure of the rivers. Polycletus, according to Strabo, describing the Khoaspes and Eulaeus as flowing into a lake on the Tigris, while Pliny describes the lake as made by the Eulaeus and Tigris near Charax. Ptolemy placed the mouth of the Eulaeus some fifty German miles from that of the Tigris. He must therefore have had in view, the mouth of one of the branches which flow into the Persian Gulf. Arrian likewise describes Alexander the Great as navigating, or proceeding by the Eulaeus to the sea (*lib. vii., Exped. Alex., cap. vii.*) or, as he afterwards says, “from the Eulaeus by the sea to the mouths of the Tigris.” The passage will be interpreted hereafter, as also a further one, in which it is intimated that Alexander navigated the coast (the Eulaeus then flowing into the Persian Gulf), between the mouths of the Eulaeus and the Tigris, to a castle held by Hephaestion.

The Karún is mainly fed by two great tributaries, the river of Dizfúl and the Karún properly speaking. The former is itself formed of two branches which rise in the territory of Búrú-jírd and uniting at Bahrain pass into the mountains between the hills of Ushtūran Kúh, "Camel's Hill," to the right, and Miyánah Kúh, "middle hill," to the left. It afterwards breaks into the plain between the hill forts of Tangawān, and Kalah Shahi, and passing by the town of Dizfúl, joins the Karún at Bund-i-Kír, or "the Bitumen dam or dyke."

The river is crossed at Dizfúl by a bridge of twenty-two arches, constructed by Shapur Zulakaf, who also built those of Shuster and of Rhajian.

It receives It receives a first tributary, the Ab-i-Bálá-rúd, some seven miles below Dizfúl.

Sir Henry Rawlinson describes this river—the Bálá-rúd—as rising in the hills of Mangerrah and Shah-zadah Ahmed, and flowing after a course of about forty miles into the river of Dizfúl. It was at the time he crossed it (March 3rd) a mere rivulet, scarcely a foot's depth of water, but when there is any heavy rain in the

hills, it comes down in a torrent of tremendous force.

Some years ago, when the late Shah of Persia was crossing this stream with a large body of troops, the torrent or Sil-ab, as it is called, came down suddenly, and at once swept off fifty horsemen, and the troops were delayed for two days upon its banks, during which it was impossible to cross from one side to the other.

The bed of the Ab-i-Bálá-rúd is covered with pebbles filled with little shells (nummulites?) ; they are called Sangi-Birinj (the rice stone, from the resemblance of the fossil shells to grains of rice), and are in much request throughout Persia, for the head of the nargil pipe, which is scarcely ever, indeed, composed of anything else but this stone set in silver. The Sangi-Birinj is also found in the river of Shuster, but neither in such quantities nor of so good a quality, that is, so full of shells, as Bálá-rúd, and Sir Henry says he does not believe that it exists in any other river in Persia.

This is worthy of note, in a commercial point of view, for as considerable a revenue is derived from the meerschaum (silicate of

magnesia) mines, as from the saffron cultivation at Zaffranboli in Asia Minor. Milliolitic and nummulitic limestones are, however, to be met with in other parts of the country.

A hill fort, called the Kaláhi Tangawán, overhangs Bálá-rúd, which has the appearance of great strength, but is very indifferently supplied with water.

See 11 The other stream is called the Shapúr, or Shawúr, as it is vulgarly pronounced, which is said to rise about ten miles north of Sús or Shús as it is pronounced, flows in a deep, narrow bed by the tomb of Daniel, and laves the western face of the great mound.

See 12 Susa had thus three streams—the Kerkah or Khoaspes to the west, the Dizfúl or the Kopratas to the east, and the Shapúr or Upper Eulaeus in the middle. There is a discrepancy about the outlet of this latter stream. Sir Henry Rawlinson says it flows into the Karún, in the neighbourhood of Waiss. The people of Ahwáz, however, pointed out to us its old bed immediately below the ledge of rocks at Ahwáz itself, but when at Bund-i-Kír, the pilot declared that it, or what remains of it, for it is partly lost in marsh, now

flows into the river of Dizfúl. It has evidently varied its course with the lapse of time, and seems very probably to have been originally a canal drawn from the Kerkáh, through the town of Sus, by one of the Persian kings—perhaps the one whose name it bears.*

Sir Henry Rawlinson points out that the Ab-i-Díz has often been miscalled the Ab-i-Zal. The river, so named, from Zal a contraction of the Arabic Zalal, signifying pure, flows between Jaidar and Dizfúl, and the bridge over it, which was crossed by Timúr the Tatar, still exists. It is a misstatement in Petit de la Croix's translation of the History of Timúr, that led to the confusion. The Ab-i-Zal is a tributary to the Kerkáh.

* Layard says it rises near the village of Kaláh Hájj 'Alí from springs in the plain near the Kerkáh. It flows into the river of Dizfúl about eight miles above Bund-i-Kír. It, however, has not only altered its course, but is at times divided into two branches ; at others is entirely drawn off for irrigation.

CHAPTER II.

The town of Dizfúl—Extortion of the Chiefs—Still the principal Market of Khuzistán or Susiana—A Sasanian town—Arab and Rayah tribes.

THE town of Dizfúl is situated a few miles from the foot of the hills, on uneven and stony ground forming the commencement of those vast plains which stretch towards the basin of the Tigris and the Euphrates.

The condition of the town is described by Sir A. H. Layard, as in almost every respect similar to that of Shuster, indeed, the two towns are generally spoken of in Persia as one. The manners, customs, and condition of the inhabitants are similar. Unlike Shuster, however, Dizfúl recovered after the plague a part of its previous prosperity, and its population is said to be probably now on the increase.

Dizfúl, like Shuster, has its own chiefs, each of whom can collect a small body of armed

men, and exercises unlimited authority over the quarter of the town in which he resides. The town has eight of these Mahallas, or quarters, with its separate chiefs, who not only extort so-called taxes from the people, but are continually at variance with one another, and disturbances are, or were, daily taking place. Dizfúl, in fact, suffers as much from its aghas or chiefs, as it does from the Persian government. They are continually plundering and oppressing the inhabitants.

"It would be impossible," says Sir A. H. Layard, in his valuable "Description of the Province of Khuzistán" (*Jour. of the Royal Geo. Soc.*, vol. xvi. p. 31), "to describe the scenes to which, during a few months' residence in Khuzistán, I was daily a witness; houses were plundered, crops burnt, and villages destroyed; the most influential inhabitants were daily exposed to torture, the Ra'yyats completely ruined, the bazaars shut, and the people almost afraid to venture into the streets. The taxes for the year were raised three times, and the chiefs, moreover, were compelled to exact money from their adherents to satisfy the rapacious avarice of the

Mo'tamid. Baratdars, or holders of Government orders for money, swarmed in the towns and villages, and, being encouraged by the presence of the Mo'tamid, were guilty of the greatest excesses. The Persian soldiers lent small sums of money to the unfortunate inhabitants, who were compelled to borrow in order to satisfy the demands of the Government, at an enormous rate of interest. Women and men were stripped naked in the streets, and murders were of daily occurrence. The Mo'tamid was perfectly indifferent to the frequent petitions of the unfortunate Ra'yyats, and appeared rather to encourage than to discountenance these enormities. His troops were without pay, or even means of subsistence, and they lived upon the plunder of the country."

It may some day, as commercial relations are extended and cemented by this important opening to the interior of Persia, be found possible to extend some kind of protection to those down-trodden and oppressed people, especially the Rayahs, or Ra'yyats, as Layard designates them, and who have already been protected in

places by the representatives of the British Government under the ægis of the Shah. This province has hitherto been so far removed from the action of the Central Persian Government, that they have been the helpless victims of an almost incredible amount of irresponsible persecution and tyrannical extortion.

The government accounts of Shuster and Dizfúl are kept by a *mustaufi* (or receiver-general); they are, however, greatly neglected, and are generally in arrears. The chief of each quarter collects the appointed sum from its inhabitants, but very seldom pays to the government that which he has received, but, appropriating it to his own use, is compelled, when called upon for payment, to oppress all within his power in order to raise the amount a second time. He will even very seldom give a receipt for money received from a *Rayah*.

Still is the town, notwithstanding all these drawbacks, now the principal market of Khuzistán. Its bazaar is, however, inferior to that of Shuster; the merchants offering their goods for sale chiefly in caravanserais, or in their own

houses. Its population may be about fifteen thousand, although it is generally believed to amount to twenty thousand. Its houses are not so well-built as those of Shuster, and the streets are narrower.

Sir Henry Rawlinson considers Dizfúl to be a Sasanian town, founded at the same time as the bridge was built across the river to conduct to the new capitals of Jundi—Shapúr and Shuster.* It was originally called Andamish, and seems to have retained this name till the thirteenth century. Hamadu-llah-Mustaufi, indeed, who wrote about A.D. 1325, is the earliest author who mentions the name of Dizfúl. It is not, says the same writer, very safe to trust the etymologies of the Orientals; but the most probable derivation of Disfúl, or Dispúl, seems to be the bridge of Diz, which name, although signifying generally a fort, is applied in particular to a most remarkable scarped rock situated near the river about thirty miles north of the present town, and still celebrated throughout Persia as

* The name would appear to be an euphuism of Diz, "a fort," and Púl or Fúl, "a bridge."

the strongest hill fort in the kingdom. Ra'nash was an old suburb of Andamish, on the right bank of the river, and the name still pertains to the ruins.*

Sir Henry Rawlinson also quotes the Tazkarati-Shusteriyah, a work written by a native of Shuster about a hundred years ago, as conjecturing that Dizfúl may represent the city of Antabalus, which is said in old authors to be met with near Sus, or Susa. But as he did not meet with the name elsewhere, or the old authors alluded to, he very much doubts that such a city as Antabalus ever existed in Susiana.

There are, it is to be observed, several Arab tribes considered as dependencies of Dizfúl and Shuster. They occupy the plains to the west of those towns, frequently settle in small villages, cultivate wheat, barley, and rice, and tend large flocks of sheep, and some of them, of camels. They have their own sheikhs, who enjoy an

* There is also a remarkable mountain called Deh-i-Diz, with a peak of 6,725 ft. in altitude, in the Bakhtiari country, on the river Rudbar or Bazuft.

almost unlimited authority over them. There are also several small tribes of Rayahs, chiefly Sabaeans, who are engaged in the cultivation of the soil and in industrial pursuits in the towns, and who have been protected by the British authorities.

Handwritten notes:
Karun
Chaharmahal

CHAPTER III.

The Karún—The Kor Kanūn—The Ab-i-Bors—The Fire Temple of Shushan or of the Greater Solomon—The two Tombs of Daniel—Reservoir and Sacred Fish—The Gilgird Mountains and Castle—The relics of Mal-i-Amír—Sus, Shús, Susan, or Shusan—The Jadahf A'tabeg—Ancient Pass of the Mountains.

THE Karún, we have seen, is called by the Arabs Karún, but by the Persians and Bakhtiyari Lurs Kúran. Both names are, however, used in the province of Khuzistán. It is also written Karún in the Turkish Jihan Numa, or "Spectacle of the World," but the proper orthography is probably Kúran, and Sir Henry Rawlinson adopts this latter reading throughout his important "Memoir of a March from Zohab, at the foot of Zagros, along the Mountains to Khuzistán (Susiana), and from thence through the province of Lúristan to Kirmanshah, in the year 1836" (*Journ. of the Geo. Soc.*, vol. ix. p. 26, *et seq.*).

This river has its sources in the Zardah Kúh, or yellow mountains, so called from the colour of the rocks. The Zendah-rúd, or "living stream," has its sources on the eastern, or opposite side of the same rocks. They are called Chehel Cheshmeh, or "the forty springs," and Shah Abbas the Great formed the design of cutting through the mountain, and of bringing the united water of the Zendah-rúd and Karún to Ispahan, the capital of his empire. He commenced the undertaking, and it was nearly completed before his death. His successors, sensible of the importance of the work, but desirous of acquiring the honour of its entire execution, recommenced at a different place. The result was that, after great expenditure of money and labour, the river continued in its original bed. A great portion of the work was completed, and the remains, now called Kor Kanūn, are, according to Layard, very remarkable.

The river, after forcing its way through lofty mountains by precipitous and narrow gorges, and receiving numerous small streams from the valleys, is joined by its principal tributary, the Ab-i-Bors, a few miles above Shusan. This

river is almost equal in size to the Karún, and is said to be formed to the south of Fellat by the united waters of the Kersan and Ab-i-Garín. The Ab-i-Bors to its junction with the Karún is a broad and rapid stream, forcing its way through a succession of precipitous ravines, and only fordable in one or two places with much difficulty during the autumn. It is crossed on the road between Kúm-i-shah and Kalahi Túl in the valley of Bors. Artillery and heavy baggage have to be taken across on rafts.

North of the Bors is the Ab-i-Lurdagan, which takes its rise in Jánnikí Sardisir, a district inhabited by the Jánnikí Lurs, near a village from whence it derives its name. It is fordable in many places, but is generally narrow and deep, with well-wooded banks.

The Karún becomes, after receiving these tributaries, a large and rapid river. Passing through a difficult ravine, it enters the valley of Shushan. Layard found it fordable here in the month of November, but only at one spot, and the ford was a very difficult one. Below Shushan it forces its way through a most precipitous gorge, breaking with violence over innumer-

able rocks, which have been precipitated by the mountain torrents into the bed of the river.

Here there are the remains of a magnificent bridge, called that of Jirzad, a work, according to Sir Henry Rawlinson, of the age of Ardeshr̄r Babegán, and described by the Orientals as one of the wonders of the world.

It is, however, probably a relic of the ancient Elam, son of Semi (Gen. x. 22), known to the Greeks as Elymaïs, and where was the renowned temple which was sacked by Antiochus Epiphanes, and was dedicated, according to Strabo, to Minerva, or Azara, or, as Casaubon reads it, Ta Zara, Zara, from Azar "fire," being the name of the temple, corrupted by Hesychius into "Zaretis, the Persian Diana." Ælian, in his "*Hist. Animal.*" (lib. xii. cap. 23), notices the temple as that of Adonis—the Thammuz of the Hebrews, and Thammous of the Greeks. Sir Henry Rawlinson identifies this temple with the ruins of the Masjidi Sulaimani Buzúrg, or "the great mosque of Solomon."

On the right bank of the river, near the bridge, says Rawlinson, are the remains of a magnificent palace; the ground all around is now planted with orchards, but the general design of

the building is to be traced, and many pillars still remain entire. At a short distance from hence, to the N.E., and at the foot of the hills, is the tomb of Daniel, called Daniyali Akbár, "the greater Daniel," in contradistinction to the other tomb at Sus, which is called Daniyali Ashgar, or "the lesser Daniel." The building is said to be composed of massive blocks of white marble, and a large reservoir, formed of the same materials, is in front of the tomb. This is fed by a small stream, which here descends from the hills, and contains a vast quantity of sacred fish, that are regarded like the sacred fish in the pond of Ibrahim Khalil ("Abraham the beloved") at Urfah, with the most superstitious attachment. Adjoining the tomb is a large slab of marble, engraved with a perfect cuneiform inscription, and many other broken slabs, similarly sculptured, are said to be found among the ruins. On the left bank of the river the principal ruin is a large fort, at the foot of the southern range of hills.

These hills are named Gilgird, and the fort is called Kalahi Gilgird, and from the description Rawlinson judges it to be a Susanian edifice. The high road, conducting from Mal-i-Amir to

Susan, traverses the chain of Gilgird by a narrow pass at the south-east corner of the city, and at the entrance of this pass, from the plain of Mal-i-Amir, is one of the great curiosities of the place: a large portion of the face of the rock has been artificially smoothed and an immense tablet, with very long cuneiform inscriptions, has been engraved upon it. There are said to be about twenty figures sculptured upon the tablet, and the inscriptions, &c., are described as fully equalling in length those of Bisútún. There is also a natural cave near this place, which is called Shikafti-Salman (Salman was Ali's tutor, and the two are associated in a joint incarnation in the creed of the Ali Ilahis), and is visited as a place of pilgrimage by the Lurs.

We shall return to this interesting site in the very heart of the mountains, when describing Major Well's actual exploration of the place. Suffice it at present that it lies on the ancient highway which once led from Sardis by Babylon to Susa, and was thence prolonged to Shushan in Elymais and to Ispahan in Persia.

This road is now called the Jadahi A'tabeg,

or Ata'beg, or the highway of the Atabegs and Sasanians ; but it is evident they only repaired an ancient work.

"I recognize," says Sir Henry Rawlinson, "in this line the route which is described by Strabo as conducting from Gabiana (the ancient name of the district of Ispahan) through Elymaïs to Susiana. I believe that it was by the same road that Antiochus and Mithridates were enabled to penetrate to the fire-temples of Elymaïs ; and indeed, from the stupendous character of the undertaking and the immense labour that seems to have been bestowed on it, I am inclined to regard it as a work of the most remote antiquity." (*Journal of the Roy. Geo. Soc.*, vol. ix.)

So familiar does this mountain pass, difficult as it is, appear to have been to the ancients, that it is possible to trace the origin of the name Zagros from the lofty snowclad group of mountains which lie around the sources of the Karún, and of which the Kúh-i-Zerre, or Zara, the Górdan-i-Zara (9,300 ft.), and the pass of same name, constitute the head. The other chief peaks are known as the Kúh-i-Kalah

(12 to 14,000 ft.), the Kúh-i-Jíhan Bín, the Kúh-i-Dinar, the Kúh-i-Sabz, and the Kúh-i-Arman. The word Zara is derived from Azar "fire," and in its mutation into Za-gros by the Greeks, it would still preserve the character of being the chief mountain of the Fire-worshippers.

Sir Henry Rawlinson's views, in regard to Súsá or Susan, may be given in his own words: "The very expression of Scripture," he says, "Shushan the palace, would appear indicative of a distinction from some other city of the same name. Daniel, be it remembered, was in the palace, yet he saw the vision on the banks of the Ulai and heard the voice between the banks of the river. From the mound of Sús the Kerkáh is one and a half mile distant, but at Súsán the river does actually lave the base of the great ruin. The ancient tomb of the greater Daniel may be also taken into account, and the cuneiform inscriptions are certain evidences of antiquity. As this city did not lie upon Alexander's march, his historians have failed to notice it; but in the later geographers, who had indistinct information of the place, and confounded it with the great city of the

same name which formed the capital of the province, we discover some traces of its true position. Thus when Pliny says, that the Eulaeus surrounded the castle of Susa at the distance of 250 miles from the sea ; and when Ptolemy places Susa in the north-western corner of the province of Susiana, upon the left branch of the Eulaeus, and upwards of a degree above the point of confluence of the right arm of the river, they both can only refer to Susan and the Kúran. This tract of country, extending south of the Kúran, and containing the districts of Susan, Mal Amir, and Jánnikí, appears to have formed a part of the great province of Elymaïs, and after the period of the Macedonian Conquest to have risen to much wealth and prosperity—here, then, I look for the rich temples which attracted the cupidity of the Syrian and Parthian monarchs."

It might be observed upon this that Ptolemy places Susa in Susiana, and not in Elymaïs, and in the north-western corner of the former province, which Sus is. The left branch of the Eulaeus might be the Karún proper, as distinguished from the Kopratas or river of Dizfúl,

and upwards of a degree above the point of confluence of the right arm of the river, to the ancient mouth of the Shapúr river. Pliny's reference to the Eulaeus surrounding the castle of Susa is more easily explained by reference to the peculiar circumstances attendant upon the hydrographical position of Sús than of those of Susan in Elymaïs. As to the claim of Daniel of the latter city being greater than the Daniel of Sus, such kind of local vaunting is not uncommon in the East.

Sir Austin H. Layard, who personally explored the ruins at Shushan, says there are no remains at that site to indicate the existence of a great city of the Kayanian epoch, and he sees no good reason for making a distinction between Susa on the plains of Susiana and Susan or Shushan in the mountains of Elymaïs. No doubt Susa was the same as "Shushan the palace," and the great city of antiquity, but it remains not the less a fact that a site on the Upper Karún (possibly Elymaïs) is known by the name of Súsán, or Shúshan, and the district adjacent as the Súsán or Shúshan-Sahráb.

CHAPTER IV.

The Plain of Akhlí—The Castles of Rustam and of the Maiden—Naphtha springs and Fire Temples—
 “Lesser Mosque of Solomon”—Temple of Nanea
 —Anahíd and Azara—Fate of the Antiochidæ—Tradition of Nimrod and Abraham—The Asylum Persarum—The Sunbulah, or ear of corn.

BUT to return to our river. The Karún continues beyond the site of Shúshan or Elymaïs—its renowned temple and magnificent bridge—to wind between lofty mountains overhanging the valley of Shúshan-Sahráb and the plain of Andakú, until it emerges into the plain of Akhlí. It receives in this part of its course several tributary streams, the principal of which are the Jalak, which rises near Kúh-Kirna, and traversing Tang-bú-Hamid, runs near the foot of Diz Malékánto Ziv-Rúd; and the Ab-i-Shúr, a large salt stream which enters the Karún above Loli. This, at all events, indicates the presence of salt in the neighbouring rock formations.

These tributaries are all fordable, unless swollen by the rains, when they become most impetuous and dangerous torrents. Sir A. H. Layard relates that he was carried away by the Ab-i-Shúr after one night's rain, though the day before it was scarcely above his horse's knees.

The Karún enters the plain of Akhl by a narrow gorge, and here quits the great chain.* This ravine has been fortified, and the remains of two ancient castles, probably Sasanian, are found on either side of the river. That to the right is called Kaláhi Rustam, after the hero of Persian romance, and is a very singular ruin. A lofty detached rock rises abruptly from the river, and has been surrounded and fortified to its very summit by great masses of stone, taken from the torrent and united with the most tenacious cement. Around this rock are numerous foundations, also of stone, which appear to mark the site of a town; and in the neighbouring mountains are excavations similar to those found in Shuster, which are evidently burial-places for the dead.

* Captain Selby suggests Ak-Kalah, "white castle," and he is most probably correct.

The remains on the left bank are called Kaláhi Doktor, or "Daughter's Castle," and consist of similar fortifications. The Lúrs have many traditions concerning these ruins. The castle on the right bank they pretend was built by Rustam, when engaged in war with a maiden queen, who dwelt on the opposite side of the river.*

More important is it, that one of the principal roads into the mountainous region of Elymaïs was carried through this pass, as the principal road to Ispahan and the Bakhtiyaris now is, and hence was it defended by the two castles or strongholds now in ruin.

In the plains of Akllí the Karún is a broad and tranquil stream, and would be fit for navigation if not blocked up by the bund or dam of Shuster. Captain Selby speaks of this plain or valley "as presenting, as far as the eye can reach, one vast cornfield, studded with villages

* Captain Selby gives a different version of the existing tradition. "A lover, separated by the envious waters from his mistress, and whose passion daily urges him to dare the foaming torrent, is," he says, "the tradition attached to these two remarkable hill-forts."

and date groves, and numerous gardens, amongst which the orange is most abundant."

"The valley is about forty miles long, and from ten to fifteen broad, and from its position, receiving all the rich soil washed down from the mountains, necessarily most productive ; and it is from here that Shuster, and a vast extent of adjacent country, are supplied with corn of all descriptions."

No wonder at the Fire-Worshippers of old having a temple so wealthy that it aroused the cupidity of Macedonians and Parthians alike in a locality so favoured by nature !

Numerous canals and watercourses are derived from the river on its entering the plains, and in its course across them, which is about ten miles in extent ; it is joined by the large salt stream of Bártawand, and shortly afterwards forcing its way through the gorge of Kúhi-Fedelák, a part of the range of lower limestone and sandstone hills which run parallel to the loftier ranges.

Here again the presence of salt deposits is attested by the saline character of the water. These deposits are indeed met with all along

the outer supracretaceous formations, from the plain of Kumarij on the road from Bushire to Shiraz, to the Ali Tagh and Kifri hills, and the fiery furnaces at Kir-Kúk.* These deposits are generally accompanied by bituminous and ferruginous marls, which, when exposed to the action of subterranean streams, give off naphtha, and are generally thermal as well as saline, from chemical action induced by the decomposition of pyrites.

The fire-worshippers of old availed themselves of the spots where these fountains of naphtha were met with, to build there their temples ; for carrying the naphtha by tubes through their Pyraea or fire-altars, they obtained that perpetual flame, by which, when the worship of fire had succeeded to that of the sun, moon and stars, they were enabled to maintain a result which constituted a chief element of their magian or sacerdotal constitution.

Hence was it that the ruins of a once great temple exist on the plain of Bartáwand, so called from one of the tribes of Lúri-Búzúrg. It is named by the Lúrs Masjidi-Sulaíman Kúchúk,

* "Researches in Assyria," &c., pp. 239, 327, *et seq.*

or the lesser mosque of Solomon," to distinguish it from the other temple Masjidi-Sulaiman Búzúrg or "the greater mosque of Solomon," before noticed.

Unfortunately, being at the time in an enemy's country, Sir Henry Rawlinson was unable to examine this relic of one of the ancient temples of Elymaïs, but he describes it as the temple of Anáhíd (the Persian Ishtar and Ashtoreth), and which was supposed by Strabo and Diodorus to be sacred to Jupiter, but which in the Maccabees (II. *Mac.* c. i., 13-14) is named more properly the temple of Nanea. It was in sacking this once renowned temple that Antiochus the Great lost his life. Strange to say, his son, Antiochus Epiphanes, was defeated in his attempt to plunder the other great temple upon the Eulaeus below Susan, the "*templum Dianæ Augustissimum illis gentibus*" of Pliny (vi. 27) (for Anahid in the classical mythology was generally identified with Diana and Nanea with Venus), and retreating, according to Polybius, to Tabae, he expired there in agony, either of his wounds or of a bodily malady. Sir Henry Rawlinson

suggests that the name of Tabae is preserved in the modern Táb, but we are more inclined to think that it is to be found at Tezeng or Tayizam, called Tayyib, by Hammer von Purgstall, a site upon a high road, where a defeated army might be better supposed to have taken refuge on their way to the plains. The fire temples of Elymaïs were certainly fatal to the Antiochidae.

But Rawlinson, who makes this temple sacred to Anahid and Nanea, which it probably was in part or at different epochs, also points out, that in connection with the expedition undertaken by the Parthian king Mithridates against these fire temples, that he is said to have robbed the temple of Diana, named Azara, of ten thousand talents, and to have taken Seleucia, on the Hedyphon (Strabo, p. 744).

Now Azara is derived from Azár, signifying fire (probably, says Rawlinson, it is a mere contraction of A'zar-gah, a fire temple) and is in itself a proof that these temples were, at all events at one time, essentially fire temples fed by naphtha fountains.

This Seleucia in Susiana, Rawlinson considers to be represented by the ruins of Manjanik, and the great mound which preserves the tradition of Nimrod and Abraham to mark the site of the fire-temple that fell into the hands of the Parthian king.* This temple, also renowned for its sanctity, is further supposed to represent the holy place of refuge — the “Asylum Persarum,” with which Pliny illustrates the course of the Hedypnus (the Ab-i-Zard), and it appears to have retained its celebrity after the Arab conquest when it was known as the great fire-temple of Marin, upon the confines of Fars and Khuzistán, and which is described by Jathání in the eleventh century as one of the most famous of the Magian places of worship.

As usual whenever we have to deal with anything appertaining to comparative mythology, many difficulties present themselves to unravel. The name of Sunbulah, for example, given to a range of mountains bounding the plain of Gilan to the north-east, is said to

* Layard identifies Seleucia, also called Soloce, with a site designated as Sileisah, also on the Hedyphon.

signify an ear of wheat, and this was one of the many symbols of the female principle of fecundity (in this case more particularly of the earth), and which together with the male generative power of the sun, formed the two great objects of adoration among the early nations of the East. In after ages the worship of the two principles, under the names of Mithra, or the Sun, and Anaitis or Venus (as well as Diana and Minerva according to some), having undergone a great modification in its connection with the theism of Zoroaster, became sometimes confounded ; but still the Sunbulah or ear of corn, continued the peculiar characteristic of Venus in her personification of the fecundity of the earth ; and thus we see it depicted on the coins of Nannaia, the Syrian version of Anahid, written Nanea in Maccabees, and Nání in Hyde's admirable work *De Religione Veterum Persarum*) ¹¹⁶⁴.

CHAPTER V.

The Masrúkán, Du Dangah, or Ab-i-Gargar Canal—
 Various Bunds or Dams—The Bund-i-Púl and Takht-
 i-Kaisar—Associated with Valerian—Tunnels—The
 Shádarwán—A paved reservoir.

THE cliffs rise on both sides of the Kúh-i-Fedelák, at the exit of the river from the fertile plains of Akfílí and Bartawánd, perpendicularly from the river, and a road has been excavated with much labour on its left bank as an approach to Shuster.

This road is an ancient work, and there are many sepulchral grottoes in the rock above the river, similar to those of Kaláhi Rustam. Here also a bund or dam was constructed, to insure a supply of water to irrigate the lands of Akfílí. All traces of this work have, however, now disappeared.

The river immediately above the town is divided into two branches; that to the north

or north-west is the original channel of the river, that to the south or south-west is the celebrated Nahr-i-Masrúkán (Musrikán in Abu-e-Tula *Geogr.*, p. 58, and printed Mushirkan in Jaubert's translation of Idrisi (i. 379). (The name is said by Renouard to signify "Sharpers' river.") This canal is also called Du Dangah, or the two parts, a name which from its size relative to the river Karún (called the Chahár Dangah or four parts) it possessed in the time of Timur. It is now, however, usually called the Ab-i-Gargar from the quarter of the town by which it flows. Shuster is in fact almost surrounded by the Ab-i-Gargar, the river Karún, and a small canal connecting the two; these form its natural defences: the old walls being in ruins.

The elaboration of the famous Nahr-i-Masrúkán of the Oriental geographers is, Sir Henry Rawlinson says, one of the most intricate and contradictory objects of research he was ever engaged upon.

Captain Selby, who ascended the Ab-i-Gargar to within five miles of Shuster, in the steamer *Assyria*, says that it is much better adapted for

steam-navigation than the main stream, as in it the current is less, and Shuster itself can be approached nearer by three miles than by the river.

The canal itself, attributed to Shapúr, being cut from the Karún at Shuster, runs southward and eastward, and then curves round in a south-westerly direction for a distance of about ten miles through a beautiful and highly-productive alluvial plain or valley, in some places a mile, in others more than a mile wide. Like all streams running through a similar soil, it is rather serpentine, and winds from side to side of the valley, thus traversing and completely watering the whole of it. This valley is bounded by stiff marl cliffs, which are in fact the banks that formerly restrained the waters in their course, when the whole river was turned into this channel, while the bridge was being built.

Continuing their south-westerly course, these high cliffs gradually approximate until, at the junction of the canal with the other rivers at Bund-i-Kír, they form the immediate banks, and tower perpendicularly overhead to a height of a hundred and thirty feet.

The depth of water in the Ab-i-Gargar is nearly uniform, being in the channel from twelve to eighteen feet in the lowest season ; the breadth varies from sixty to a hundred and twenty yards, with a current of not more than two miles an hour, until, after passing the town of Khásamábád, where it approaches the hills, the current gradually increases until at about two miles from Shuster it runs at the rate of about five miles an hour. At Khásamábád trading boats to and from Shuster load and unload, their cargoes being conveyed across by land carriage.*

"To ascertain beyond a doubt," says Captain Selby, "how far the canal was capable of being navigated by the steamer I then commanded, I ran on until within one mile of the town, where the passage was finally closed to me by a natural ledge of rocks reaching right across the river, with only a small opening about ten yards wide, through which, however, boats of twenty tons can and do pass into the very heart of the town; and thus might we either land troops, or our merchants their goods, from either England or

* Layard calls the port Máhibázán or Hasán-ábád.

India, in the very heart of the town ; the advantages of which, especially in a country where land carriage is so expensive and precarious, are too evident to require comment.

“Half a mile above the point to which I attained is an artificial bund, or dam, on which are the remains of numerous water-mills ; these, however, could only have been used when the whole river ran through the canal, as they are now many feet above the present level of the water. Good wood for steaming is plentiful along the banks and on the small islands in the centre of the stream ; but as the distance between Bund-i-Kír and Shuster is so short (only about eight hours), no intermediate wooding station would be necessary.”

The Ab-i-Gargar, it is further to be remarked, in consequence of its supply coming from above the dam at Shuster, is but little affected by any rise in the main river, and is at all seasons navigable for vessels drawing six feet of water.

The original channel of the river Karún, which flows west of Shuster, is the Nahr-i-Túster, or Dujaili-Túster of the geographers ; it is the Chahár Dangáh of Timur's march, and during

the last two centuries it has been named Karún or Kúran.

Many bunds, or bands (dams) were formerly constructed upon this stream to divert the waters into channels to the east or west, but the Bund-i-Khák, or "earth-dyke," immediately below the town is the only one at present which fulfils its original purpose. The great dyke across the Karún was named Bund-i-Mízán, "the dyke of the balance," from its being carefully formed to the same level as the Bund-i-Kaṣsar, and above the mouth of the tunnel. The bridge, which is called Pul-i-Kaṣsar, "Cæsar's bridge" was built upon this dyke, the buttresses of the bridge forming a part of the bund.

All these works bearing the name of Kaṣsar are ascribed to Shapúr's prisoner—the Emperor Valerian—of whom other memories are preserved in the mound some two miles from the bridge on the Ab-i-Gargar, known as the Takht-i-Kaṣsar, or Cæsar's Throne, and in the castle of Lethe at Susan, or as Layard opines at Dizfúl.

A deep and narrow channel is cut directly through the hill upon which stands the castle of Shuster. The entire length of the excavation

may be three hundred yards; the breadth is fifteen feet. In many places it is cut down, in a direct cleft through the hill, in others it is perforated like a tunnel; the mouth is in the face of the precipice below the castle, and is said to be ten or twelve feet deep. The stream is called the Nahr-i-Dáriyán, but is more generally known by the name of Ab-i-Miyándab (a contraction for Miyán-dú-áb, "the river between the two waters.")

There seem in reality to be two tunnels, for in the intervening space in the bed of the river between the two tunnels is a kind of reservoir described as the famous Shádarwán (literally, a carpet, or flooring) of Shapúr, being so named from the stone pavement at the bottom of the river, which is said to be still in good preservation. This particular part of the river is also named, in some works, Nahr-i-máh-pariyán, now corrupted into Máfáriyán.

The Nahr-i-Dáriyán, where it issues from its excavated bed, flows in a channel, which seems to have been constructed with the greatest care, and of massive blocks of stone, immediately under the ruined walls of the western face of

the town, and elevated, consequently, above the pebbly bed of the Karún. Petty aqueducts convey the water from here to all parts of the town; and when full the canal is said to irrigate the whole district of Miyándab to the extent of ten or twelve miles south of Shuster.

CHAPTER VI.

The Castle of Shuster—Character of the Shusteris—
 Their local Chiefs—Captain Selby's experience of
 the People and Country—Great hospitality and
 generosity—Leaning towards the English—Political
 importance of Shuster.

THE castle of Shuster stands on a rock rising boldly from the river, by which it is defended on one side alone. The high ground falls rapidly to the level of the city, and the castle itself is commanded by adjacent loftier heights, and is consequently a place of no strength. In its centre is a large and substantially built house, which serves as a residence for the governor. Shafts are dug down to the tunnel for supply of water, in case of siege.

Shuster is divided into twelve mahallahs or quarters ; some of them, however, are almost in ruins. Its population is reported to have amounted formerly, and even during the

government of Muhammad Ali Mirza (who repaired the Bund-i-Kārsar, which after that was called the Bund-i-Shah-zadah (Princes' dam)) to 45,000 souls. It is not calculated at present to contain more than 10,000 inhabitants. The Shusteris are not wealthy, but at the same time there is said to be less actual poverty and destitution than in many another town in Persia. The inhabitants are unfortunately bigots in religion—at all events so far as a strict attendance to outward rites and ceremonies are concerned. Hence Sayyids and Mullas have a great influence with them. Much importance is not, however, to be attached to these religious manifestations, for it is well known that those who pretend to most piety, are often the least steadfast.

The population is also, on the whole, moral; and crimes, except on occasions of popular ferment, appear to be of rare occurrence. The Arabic language is generally understood, although the Persian prevails, but the Arabian dress is at the same time affected in preference to that of Persia.

A peculiarity of Shuster, is that, like Dizfúl, it has a number of chiefs, who divide the mahal-

lahs or quarters among themselves, according to their power and influence. These chiefs call themselves mostly Mirzas, a contraction of Amír-Zadah or son of an Amír or prince. When, however, Mirza follows the name, it has the exclusive meaning of prince.

These Mirzas are principally Sayyíds or members of ancient families, but some are merely Aghas. They generally have a small body of dependents of horse and foot, and as some, and most, are at different times well affected to the Government, at others to the chief of the Bakhtiyari Lúrs, who has great influence in the town, or to the Arabs who occupy the plains, they have frequent quarrels among themselves, and appeals to arms, and consequent bloodshed, are of common occurrence.

Captain Selby does not deny the oppression of the Shusterís by the Persians, on the contrary he gives some very flagrant examples of such, very painful to read, which came under his own cognizance, but he gives an original—a comprehensive—and peculiar view of the people, which indeed, comprises that of pretty nearly all the population living west of

the Zagros, and between the mountains and the valley of the Euphrates.

"Tradition, indeed," he remarks, "has handed down the recollection of the time when this country, which is now almost a desert, and which bears no mark of ever having been anything but the temporary residence of the wandering Arab, once teemed with happy villages and abundant cultivation, and strange as it may appear, from the extreme desolation which now presents itself to the view of the traveller, immense date groves lined the banks, and must have imparted a great idea of wealth and of comfort to this, even yet, beautiful country.

"Let it not be supposed, however, that the inhabitant of these regions, timid from constant alarms, and poor from as frequent spoliation, is yet totally ignorant or neglectful of the bounties which nature has bestowed upon him.

"The remains of ancient, and the existence of modern canals which completely intersect the country immediately to the southward of Shuster, attest that the iron despotism (we should rather have said, the flagrant extortion),

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under which they live, and which we should suppose would cause them to become careless of everything, has not been able to prevent them, in some measure, from taking advantage of the blessings they so eminently possess.

“Favoured with a highly productive, almost spontaneously producing country; enjoying a healthy climate, which for nine months in the year is delightful, abundance of canals to convey the never-failing waters of the river to their fields, even now, in the iron days of their country, they reap, whenever they venture to sow, an abundant harvest.

“Contrary to the general rule, that adversity makes men selfish and morose, the Shusteris, oppressed by the Government which should support them, *viewed as aliens, almost as outcasts from the present stock*, their chiefs plundered and oppressed, their country ruined, and themselves and property at the disposal of any Persian official who may be sent into their country, still exhibit many noble traits of character, and exercise the most liberal hospitality, the greatest generosity and the utmost attention to a stranger's wants that ever it was

my fortune to witness. A town of Sayyads (or Sayyids), descendants of the prophet, they are, without exception, the least bigotted of any Muhammedans I ever saw, and are totally different from the Persians, in whose territory they really are, and from whom they are partially descended, in not oppressing when they have the mastery, fawning when in your power, and begging at all times and from every one.

“When I mention that the time I was receiving the greatest attention from the authorities and people, the vessel was aground, and I in a measure helpless, and that I was hardly permitted to pay for workmen I employed, and for date-trees cut and rafted down above the rapids, a distance of ten or twelve miles, and that the presents I almost forced upon them were most reluctantly accepted, those who know the character of Asiatics best, will best appreciate their conduct.

“In writing thus highly of the Shusteris, I fear I may be considered as having drawn too highly coloured and flattering a picture. Let future experience and knowledge of them

decide the point, nor until they are found unworthy of the character I have given of them, and which, I am glad to find, is similar to the opinion that indefatigable traveller, Mr. Layard, has formed, let them not be classed with their oppressive neighbours the Persians.

“This short but just tribute to those people, who treated not only myself but my crew with the greatest hospitality and kindness, though contrary to the determination I had formed to confine myself to a description of the rivers, and other matters more within my province, will, I trust, be considered, although a digression, yet an act of justice on my part.

“One thing, however, has been learnt, and should be borne in mind, that from their evident leaning to the English, and wish to court their protection, as indeed expressed to me by some of their most influential chiefs; the exertions they made to open a correspondence with and obtain the countenance of our late Resident at Kharij; their hatred of the Persians, who have well, by their tyranny, oppression and exactions, earned it; the proximity of Shuster to India, which, thanks to steam, can now be made at any

season a passage of at most eighteen days ; the great facility offered for steam-navigation by vast quantities of wood admirably adapted for fuel all along the banks ; the vicinity of all the tribes on the banks ; the successful opening of the navigation of the river, which must greatly have tended to give them a favourable idea of our resources, and ourselves a consequent increase of moral power—all combine to point out Shuster as a spot which should be viewed with peculiar interest by us, whether for the advantages of mercantile communication, or in the event of a war with Persia ; for from this point we might not only supply Khuzistán, one of her finest provinces, but pour an unlimited force into the heart of the country."

This, be it remarked, was penned before the campaign of 1856, in which Captain Selby and his steamer *Assyria* played an important part, and if England had gained some moral influence in Susiana by the first expedition under General Chesney, and by the ascent of the *Assyria* to the very portals of their chief cities and centres of commerce ; and if the people, not to mention the disaffected yet powerful tribes of the Bakh-

tiyari and Feili Lúrs, and the Cha'ab or Ka'ab Arabs, were disgusted with bad government ; what must have been their feelings when they saw their oppressors, in all the panoply and pageant of a great war against the Anglo-Indians vanish before the enemy like a flock of sheep !

“ Naturally strong, completely insulated,” says Captain Selby in conclusion, “ and capable of being rendered almost impregnable, with no obstruction to our water-communication with India, Shuster might, in our possession, become of the greatest importance to us both in a military and political point of view, if ever the time should come, which I trust is far distant, when we shall be at variance with Persia.”

However interesting, this is not precisely the point of view in which we should look upon the question—the first is to relieve, and if possible to rescue the people from the tyranny and oppression of officials, whose misconduct is generally unknown to the head government, and therefore such relief could be afforded without any danger of misunderstanding ; the second is to have, a *point d'appui*, in case the Persian

government should be misled by an all powerful neighbour to suicidally oppose British interests at the mouths of the great rivers.

So also of the Mahallahs, or quarters of the town, with their rival chieftains and rival populations. Captain Selby speaks of them in an equally benign spirit. "It may appear strange," he says, "that feudalism should exist in this apparently insignificant part of Persia ; but so it is, and each Mahullah, or quarter of the town, owns its separate chieftain, whose followers are ever ready to rally around his standard whether for intestine or foreign warfare. The people appear to be perfectly happy under this form of government, and regard their chiefs more as the heads of families, than as those who have the power of life and death over them. Of a race between the Persian and the Arab, they combine the polish of the one, with the frankness of the other, nor did I ever, in any country, meet greater hospitality than was shown me by these people.

"The whole town itself is, as I have before stated, under the Persian Government ; and being in a remote nook, and separated in a

manner by the mountains from the rest of Persia, has always been viewed with much jealousy ; that Government knowing that opportunity alone is wanting to induce them to throw off the yoke now so grievously laid on them, and join the discontented tribes of Cha'ab and Bakhtiyari."

CHAPTER VII.

Revenue of Khuzistán—Sele (Ahwáz)—Shuster, “little Shus”—Prolongation of the Ab-i-Gargar—Bund-i-Kfīr—Selby’s navigation of the Dizfúl river—Presents an easy access to Dizfúl—The Koprates of the Greeks—Campaign of Antigonos and Eumenes.

KHUZISTÁN, or Arabistán as the province is also called, is rated, exclusive of the Cha’ab or Ka’ab country, at 46,000 tómáns annually. Of this sum, Shuster, Dizfúl, and the Arab tribes dependant upon them, pay 40,000—the remaining 6,000 are raised in Házizáh. The local governor of Arabistán receives yearly 5,000 tómáns contributed by Dizfúl and Shuster, and not included in the annual tribute. The local governorship does not seem to be an enviable position, for he is said to be expelled or murdered for acts of injustice or oppression, often before one year of his government has elapsed. There is scarcely a single ruin at Shuster, which can

be referred with any certainty, to an era anterior to the Sasanian dynasty ; but the excavated chambers in the rocks are admitted to be ancient, and Sir Henry Rawlinson says if he may be permitted to hazard an identification, he would suggest it to represent the Sele of Ptolemy and Ammianus.

Sela, a Hebrew and Chaldee word, or Sele, signifies a rock, and the name seems to have been particularly applied to places like Petra and Shuster, where the early inhabitants lived in their excavated chambers. The castle also of Shuster, which is built upon a rock thus excavated, retains to the present day the same title of Salásil, which it possessed at the time of the Arab conquest. The Rev. Mr. Renouard remarks upon this however, that Sela could hardly have given rise to the Arabic plural Salásil, *i.e.*, chains. Ptolemy's geographical position of Sele, Sir Henry remarks, may be explained ; and if Ammianus had any authority whatever for including this name in his list of the Susian cities, farther than the example of his model, Ptolemy, as all his other positions are to be identified, there will positively remain

no representative for his Sele among the then existing cities of the province, but either Ahwáz or Shuster. In connexion with this conjecture of Sir Henry Rawlinson (and he treats it simply as such) Ptolemy, it may be remarked, places Bergan above Susa, and Agawa and Sele below that city. It is therefore more likely to be represented by Ahwáz than by Shuster.

Be this as it may, it is a remarkable circumstance that the actual name of the city is the diminutive of Shus, having at an early period of its history been designated as the small Shus, to which city it succeeded. There have not, indeed, been wanting those who have sought to identify Shuster with the one or the other.*

* The identity of Sus or Shus and Susa has been advocated by Rennell, Sir Gore Ouseley, Gosselin, Barbié de Bocage, Sir Macdonald Kinneir and Hoeck; while the identity of Susa with Shuster has been supported by D'Herbelot, D'Anville, Vincent, Mannert and Von Hammer. The question may now, however, be said to have been set at rest. There seem to have been three different sites: Shushan, in Elymaïs, where we have still the district of Shushan Sahrab; Shus or Sus, the Susa of Herodotus; and Shuster or "little Shus," which succeeded to the other two.

Major - General Sir R. Murdoch-Smith, K.C.M.G.,

The Ab-i-Gargar was at one time prolonged all the way to Ahwáz, and the point of junction with the Karún, or where, by the aid of the old bund, the waters of the latter were poured out to irrigate the land, is plainly perceptible.

The great canal, at the time here spoken of, irrigated and imparted fertility to a vast tract of country, of whose wealth and population an extravagant Oriental account is given in the "Personal Narrative of the Euphrates Expedition" (vol. ii. p. 226), from the pen of one Mir Abdul Latif, a native of Shuster, who wrote the *Tohfát ul Alim*, a modern work composed for the information of his relative, the celebrated Mir Alim of Hyderabad.

The canal, however, in the present day, empties itself at the place still called the Bund-R.E., derives the name of Shuster from Shah Shatra, or "City of the King," and says it was founded by Shapúr. He also quotes Mr. Jeevangee Jamshedjee Modi as pointing out that Ferdousi (Firdūsi), the great Persian epic poet of the tenth century, describes the building of the bridge and dam at Shuster by Baranush (Varanus), a Roman prisoner taken at the battle of Edessa, and to whom Shapúr promised his freedom as a reward for the successful application of his engineering skill.—*Journ. of Soc. of Arts*, May 10, 1889.

i-Kír, or bitumen dam or dyke, although the dam has long since disappeared. As the river of Dizfúl joins the Karún at the same place, this remarkable point of land juts out almost at the junction of three streams.

Bund-i-Kír is said to have been celebrated in former times as a city of some repute under the name of 'Askár-Mukrá́m, and it still boasts of a mud castle tenanted by the Anáfijah Arabs and refugees from other tribes. Although we found these people rude and extortionate, they appear to have been taught better, for Captain Selby found the tribes friendly both here and all along the banks of the river.*

The gallant Captain was enabled to effect an ascent of the Dizfúl river to some miles above Kal'ah Bunder, a point at which the country becomes hilly and where is a Bund formed by a ridge of rocks running only half way across the river, so that the *Assyria* was able to steam through it with perfect ease. Up to the point which Captain Selby attained, some 13 miles

* This according to Rawlinson. Layard identifies 'Askár-Mukrá́m with Burji-Shapúr, also called Ardešhír and Masrúkán, on the Ab-i-Gargar near Bund-i-Kír.

from Dizfúl, the river he describes as remarkably good, having a channel of not less than 6 feet in the low season, with the banks abundantly wooded, and the neighbouring Arab tribes exceedingly well disposed.

This is, indeed, he says, an extremely healthy and productive region, friendly tribes on the banks of the river, the country fertile in objects of interest both to the merchant and geographer ; and he adds, our present relations with Persia considered, all tend to point out these rivers as the means whereby we may not only increase our political power, but our commercial advantages ; for so long as we can, as we now do, entirely command the access to these rivers, our perfect and easy navigation of them will ever be considered by both the authorities and the people. (*Account of the Ascent of the Karún and Dizfúl Rivers and the Ab-i-Gargar Canal to Shuster.—Journal of the Royal Geographical Society*, vol. xiv. p. 219 *et seq.*)

Captain Selby, it is to be observed, considers that the bed of the Karún itself below Bund-i-Kír constituted the ancient prolongation of the Ab-i-Gargar canal ; but this is not likely to

have been the case, as there must ever have been a river, and such would not have been described as a canal except as in the case of the Haffar—the old bed of the river having been the Bah-Mishír. We also traced evidences of the old canal as visible beyond the left bank to its junction with the Karún at Ahwáz. Major Wells also traced the beds of canals as leaving the river below the rocks which impede the river at that point.

It is rather remarkable that Captain Selby makes no mention of the stream from Shuster, mentioned by Sir Henry Rawlinson as joining the Dizfúl river, a few miles above Bund-i-Kír. The Koprates, or Coprates of the Greeks, was identified at the time of the Euphrates Expedition with the Karún, but Sir Henry Rawlinson has since identified it with the Ab-i-Díz. There are some difficulties connected with this identification. Strabo tells us that after the Khoaspes (the Kerkah River) comes the Koprates and the Pasitigris.* This would seem to indicate

* The difficulties would appear to have arisen from the Shapúr or Eulaeus having been passed over by some of the ancient geographers and historians.

that the river of Dizfúl was the Koprates, and the Karún the Pasitigris, or that the Shapúr River was the Koprates, and the Dizfúl River the Pasitigris. There is a remarkable passage in Arrian to the effect that the Koprates joins the Pasitigris before the confluence with the Eulaeus. It would seem from this that the Eulaeus was the same as the Shapúr, which flowed into the Karún in former times below its junction with the Koprates or Ab-i-Díz, and it would also imply that the Karún was called the Pasitigris below that junction.

The Pasitigris was also the second river (the first being the Khoaspes) east, in Alexander the Great's expedition against the Uxíi, or Susians. According to Diodorus Siculus (lib. xix. c. 11) Eumenes retreated, on the approach of Antigonos, with his army in one day from Susa to the Pasitigris, which the same historian describes as emptying itself into the sea, and would therefore seem to be the Karún, rather than the Ab-i-Díz, for both could be reached in a day's march; but it would scarcely be said of a tributary what belonged to the parent river.

When Antigonus left Susa in pursuit of Eumenes, his army was forced to march by night, and it encamped near the river before sunrise. From thence he came to the Koprates, said to join the Pasitigris. As the river near which he encamped would appear to have been the Karún, so this would seem to strengthen the opinion that the Koprates was the same as the Dizfúl River, and that it was only called the Pasitigris after its junction with the Karún. Eumenes, having intelligence by his scouts of the enemy's designs, passed over the bridge of Pasitigris with 4,000 foot and 1,300 horse, and found about 3,000 foot and 300 horse of Antigonus' army which had passed the Koprates. These he suddenly set upon and routed. Antigonus, thus forced to retreat, and finding it impossible to pass the river, marched back to the city of Badaca, situated on the River Ular. The bridge here alluded to may have been at Bund-i-Kír, or at Shuster, as it is called the bridge of Pasitigris, most probably at the former place. Cellarius was so puzzled with the difficulty attendant upon the record, and having no satisfactory information as to the

positioning of the Koprates, that he opined Badaca was not in Susiana but in Elymais. (*Not. Orbis Antiq.*, ii. p. 689.) Eumenes held, it appears, a castle or stronghold on the Oroatis (the Tab or Indiyán river), at the epoch of the invasion of Antigonos, and he may well, therefore, have crossed the Karún at Shuster to meet his enemy, who had crossed the Koprates; but if so, that river was known as the Pasitigris above the junction with the Koprates as well as below it. Ibn Haukal makes mention of a bridge on the Karún which existed from remote periods at a place called Askár Mukrá, eight parasangas by river (some twenty miles) above Ahwaz,* and the remains of which are still visible (*Res. in Assyr.*, p. 211) at the junction in former times of the Shapúr river.

If Eumenes crossed at this point, which would be really on the Pasitigris, then the Koprates would appear to be the Shapúr river; but this is not clear, unless Eumenes in his return also crossed the Koprates (Ab-i-Díz), and instead of (as he did) crossing the Karún,

* Askár Mukrá has, it is to be observed, been more generally identified with Bund-i-Kí.

forced Antigonus to take refuge at Badaca. This latter version of the movements of the conflicting parties seems to be the most probable, for had the Shapúr been the Koprates, Antigonus would have had to seek refuge, not on the Ulaí or Eulaeus, but on the Khoaspes or Kerkah river.

Sir Henry Rawlinson's version of the little campaign supports the latter view of the case. He considers the river where Antigonus encamped before sunrise to be the Ab-i-Shapúr. But this, considering that that stream flows through the centre of Susa, is only acceptable in as far as we do not know precisely from what point Antigonus started. He then proceeds to say that he (Antigonus) probably reached the Koprates very near the point of junction, for the camp of his enemy was "only eighty stadia distant." Why he should have preferred attempting this passage of the two arms of the rivers (the Koprates and the Pasitigris) successively, instead of crossing below the junction, like Eumenes, it is not easy to say ; perhaps he considered that as his enemy's force was beyond the eastern branch (the Karún), the passage of

the first river would be effected without molestation, and he should be able afterwards to seize on the bridge which crossed the second.

If this were his view, however, he was outmanœuvred; for Eumenes re-crossed the Karún when a part only of his adversary's forces had been passed over, and attacking them before they could be supported, he gave Antigonus a signal defeat.

"From hence Antigonus is said to have retired to Badaca, on the Eulaeus; and in this single passage is the only real difficulty which I experience in the whole illustration. Antigonus, of course, from his position on the Koprates, could not possibly have reached any part of the Kúran, which all other evidence points out as the real Eulaeus; and I am fain, therefore to consider this mention of the Eulaeus an error of Diodorus."

Admitting this to be an error on the part of the Græco-Sicilian historian, Sir Henry removes Badaca to a site twenty-five miles north-west of Susa, between the two arms of the Duwarij, on the grounds that there still exist at that point some very remarkable ruins of the same

character as those of Susa, and which are known in the country as those of Páták or Pátákah. It is further in favour of this view of the subject that Antigonus retreated from the field of battle on Koprates to Media.

The question itself is, however, of little interest, beyond determining the identity of the Ab-i-Díz with the Koprates, and at the same time elucidating a remarkable incident in ancient history.

CHAPTER VIII.

The Pasitigris—Movements of Alexander the Great—
State of Rivers at that period—Sus, Shus, or Susa—
Traditions of Memnon—Shushan, “the lily.”

THE Karún, or a branch of that river at Shuster, was known as the Dujaili-al-Shuster or the little Tigris ; and many of the older writers designated the river after the union with the Ab-i-Díz or Koprates, as the Pasitigris.

Strabo reads Pasitigris as a river resulting from the union with other rivers. Thus the Shat-al-Haï was called the Pasitigris, and so was the Euphrates, after the junction of the Shat-al-Haï—the old bed of the Tigris. Falconer in his notes to Strabo, reads the word as applied to the Karún as *Parsitigris* or Persian Tigris. There is much that is very acceptable in this reading, for at no time does that river ever appear to have flowed into the Tigris.

The Pasitigris, according to Arrian (“*Hist. Indica*,” xl., and “*Anabasis*,” iii. 17), separated

the Uxii from the Kissei. According to Diodorus Siculus (lib. xix. c. 11), Eumenes retreated with his army in one day from Susa to the Pasitigris, which he describes as emptying itself into the sea. This must probably be the channel known as the Karún-al-Amah, or "blind Karún," significative of its being no longer navigable. Ptolemy puts the question beyond doubt, when he makes the Eulaeus empty itself into the sea between the Mosaeus (Bahmíshír) and the Arosis or Indiyán.

It seems, indeed, that at one time only the Karún al Amah, was known as the Eulaeus, for Alexander the Great is spoken of by some of his historians as descending the Eulaeus to the sea, while Nearchus is made to ascend from the sea to the Eulaeus by the Pasitigris; but such statements may have had their origin in the Karún al Amah being called the Eulaeus, and the Karún proper the Pasitigris

Sir Henry Rawlinson's version of Alexander's movements is as follows: "Alexander crossed the Kerkhah or Choaspes in his march from Babylon to Susa; he came upon the Pasitigris, or Dujaili-Ahwaz (for that town had its Dujaili

or little Tigris as well as Shuster); at four marches from Susa (*Quint. Curt.*, iii. 1), in his route to Persepolis, the bridge of boats occurring, I suspect, at the town of Ahwáz. At the period of Alexander's return, Nearchus had sailed up this river to the same point (Arrian's Nearchus), and when the army marched to Susa, he brought the fleet above Ahwáz (which before the construction of the band, I conceive to have been perfectly practicable), to the mouth of the Shapúr river, and from hence he navigated that stream to Susa. Alexander afterwards embarked on the Shapúr, and following the course of it to the great river, sailed down the Eulaeus (as we should say, at the present day, he sailed down the Kúran), to the sea, sending his shattered vessels through the Haffar cut into the Tigris." If, as it is here expressed, he sent his shattered vessels to the Tigris, while he himself sailed down the Karún to the sea, it must have been by the Karún al Amah.

This was the view also held by General Chesney, who after following Alexander, as far as the historians permit, from Opis to Susa and thence to Pasargada or Persepolis, says, that

proceeding from Pasargada or Persepolis through the Susian rocks to the bridge over Karún or Pasitigris, he thus reached Susa. Here he was joined by Nearchus and Onesicritus, and going on board the fleet, he sailed down the river Eulaeus, and when not far from the mouth of the stream, he left those ships which were out of order, and taking the best, he sailed out into the ocean by the old Karún. (*Expedition, &c.*, vol. ii. pp. 358, 360, 361.)

On reaching the sea, he turned westward, and ascended the Shat-al-Arab to the western extremity of the Haffar, from whence, being rejoined by the rest of the fleet, which had passed by that channel, he proceeded to the spot where Hephæstion and the rest of the army was encamped—probably somewhere near the mouth of the Kerkhah or of the Tigris. The explanation is clear enough; the only point that is not quite satisfactory is why did Alexander proceed by the old Karún (be it the Karún al Amah or the Bahmishír) to the Persian Gulf, merely to ascend the Shat-al-Arab, whilst the rest of the fleet proceeded directly there by the Haffar canal?

The explanation of the movements of Nearchus (*op. cit.* p. 355) is that he sailed from Kataderbis (Derah or Dera Buna) to Diridotis (Teredon), at the mouth of the Pallacopas. Thence he sailed through the lake by which the Tigris emptied itself at that epoch, to the Pasitigris and to a village of the Susians, called Agines (Aginis, now Ahwáz).

It seems very doubtful if there was a Haffar canal at this epoch. The account given by the Persians of the time of the opening of the canal is opposed to such a conclusion. In this case the site of Charax Spasinus would have to be sought for at a point higher up the Karún than Muhammrah. This admitted, it would be perfectly comprehensible why Alexander proceeded by the old mouth of the Karún to the sea to gain the mouth of the Shat-al-Arab, or of the Pallacopas, whilst he left the disabled vessels to proceed to the Tigris by the lake of Susiana, just as Nearchus had to find his way by the same lake to Aginis.

The identity of Susa, with Sus (or Shus as it is pronounced) between the rivers Khoaspes and Koprates, is supported by the persistence of its

name, and the existence of ruins, more particularly the tomb of Daniel, as also by details of marches previously given. Sir Henry Rawlinson, as we have seen, identifies Shushan in Elymais, with "Shushan the Palace," and the so-called greater tomb of Daniel, with that of the prophet, and, limits Sus to the site known to Herodotus, and to which there was a highway from Babylon, dating back to the time of Nebuchadnezzar, and therefore of great antiquity.

Strabo (xv. p. 500) tells us that Susa was built by Tithon the father of Memnon, and its citadel was known as the *Arx Memnonêum*, and Herodotus (v. c. liv.) says of Susa that it was also called the city of Memnon.

The king of Æthiopia of that name, assisted Priam in the Trojan war, but there is no record of his having visited the countries beyond the Euphrates. It is more probable that the tradition originated in melodious sounds being given off from some building in the place, as was the case with the statue of Memnon. A Persian general who defended Miletus against Alexander bore the same name. So the name was at all

events more or less traditional in Persia. Pausanius also makes mention of the walls which were called those of Memnon at Susis in Persia, and Stephanus speaks of the place as the work of Memnon, and adds that the people were called Cissians or Cisians, from Cisia, the mother of Memnon.

The site is however always spoken of in Holy Writ as Susa or Shushan (Daniel viii. 2; Neh. i. 2, and Esther i. 2 *et seq.*) Athenæus (xii. 1) says it was so called from the amenity of the place, but the Greeks and Orientals alike say that the word signified a lily—just as Esther meant myrtle—a plant ever sacred in the East from ancient times to the present day. Shushan is translated lily in the Authorized Version. It has been sought to identify the lily of the Old Testament with the lotus or water-lily, and the lily of the New Testament with the scarlet martagan lily. The name of Shushan or Susan (the Krinon of the Greeks), was probably given to the *Ixia Damascena*, a beautiful blue-and-white flower, which gladdens the pathway throughout these countries. It must, however, be admitted that the fields

abound in brilliant liliaceous plants at certain seasons of the year. But the lilies that would adorn Susa in Susiana would differ somewhat from those that would be met with at Shushan in Elymais. The Iris of these countries has also beautiful flowers, the name itself signifying eye—"the eye of Heaven." The Iris Susiana has beautiful red flowers, and the Iris Persica has blue flowers with a delicious fragrance.

CHAPTER IX.

Susa—Chesney's Account—Sir Henry Rawlinson's—Lof-
tus's researches—Dieulafoy's discoveries—Archer
and Lion friezes—Akhaemenian Royal Seal—Per-
sepolitan Column—The Black Stone of Susa—
Nature and origin of Meteorites—Aggregated in
Nebulæ.

THE accounts given of Susa in such recent works as even "Kitto's Cyclopædia of Biblical Literature," are slight beyond idea. The ruins are described as extending some twelve miles from one extremity to the other—the tomb of the lesser Daniel is said to be "comparatively modern," and the site "a gloomy wilderness, infested by lions, hyænas, and other beasts of prey."

General Chesney, who first navigated the Karún, may also be said to have been one of the first who rescued Susa from the obscurity that enveloped the character of its ruins. He pointed out ("Exped. for the Survey of the Rivers

Euphrates and Tigris," vol. i. p. 203), that Sus, Susan or Shushan ("I was at Shushan in the palace," Dan. viii. 2), was the ancient capital of the country—that its Persian, as well as the Hebrew name, was that of the lily—that owing to its mildness it was the summer residence of the Assyrian and Persian monarchs, and that its walls were compared by Strabo to those of Babylon, to the ruins of which city those of Susa have a striking resemblance. His description of the place is rendered all the more interesting by a graphic illustration of the great mound with the tomb of Daniel in the distance.

Sir Henry Rawlinson (*Journ. R. G. S.*, vol. ix. p. 68), describes himself as being particularly struck with the extraordinary height of this mound, which is, indeed, so great as to overpower all the other ruins in the vicinity. It forms the north-western extremity of a large, irregular platform of mounds, which appear to have constituted the fort of the city, while the great tumulus represents the site of the inner citadel; by a rough calculation of the sextant, Sir Henry found the height of the lower platform to be between 80 and 90 feet,

and that of the great mound to be about 165 feet (the two mounds are not represented in Chesney's sketch). The platform, which is square, Sir Henry estimated to measure two and a half miles, and the mound which he paced, measured 1,100 yards round the base and 850 round the summit. The slope is very steep—so steep indeed, as only to admit of ascent by two pathways. Upon the slope of the western face of the mound is a slab, with a cuneiform inscription of thirty-three lines in length engraved on it, and in the complicated character of the third column of Persepolitan tablets: this was stated to have been part of the obelisk, which existed not many years ago, erect upon the summit of the mound, and the broken fragments of the other parts of it are seen in the plain below.

"I saw," added Sir Henry, "three of the Babylonian sepulchral urns imbedded firmly in the soil, at a point where a ravine had been recently formed by the rain, in the face of the mound; in another place was exposed to view a flooring of brickwork, a few feet below the surface, and the summit of the mound was

thickly strewn with broken pottery, glazed tiles and kiln dried bricks. Beyond this elevated platform extend the ruins of the city, probably six or seven miles in circumference ; they present the same appearance of irregular mounds covered with bricks and broken pottery, and here and there the fragment of a shaft is seen projecting through the soil.

Since the epoch here alluded to, Mr. Loftus, assisted by General Williams of Kars, has carried on excavations at the place, and effected important discoveries, which are recorded in his admirable work, "*Chaldaeia and Susiana.*" They brought to light the relics and ground-plan of the vast and splendid palace described in Esther, and supposed to be referred to by Daniel and Nehemiah ; they also recovered numerous specimens of ancient art, so that we can now understand the literal exactness with which, Daniel for example, speaks, when he says he was "at Shushan in the palace, in the province of Elam, and by the river Ulaii." (*The Bible Dictionary—Art. Shushan.*) The references to "Elam" as well as the modern date of the so-called tomb of Daniel, however, tend to

corroborate Sir Henry Rawlinson's views, that the Shushan in question was rather in Elymais than in Susiana, while in the latter was the palace of the Akhaemenian, Parthian, and Susanian monarchs.

The great hall of Susa, according to Loftus, consisted of several magnificent groups of columns, having a frontage, together, of 343 feet 9 inches, and a depth of 244 feet. These groups were arranged into a centre phalanx of thirty-six columns (six rows of six each), flanked on the west, north and east, by an equal number, disposed in double rows of six each, and distant from them 64 feet 2 inches.

The ground plan therefore as given by Mr. Loftus, represents a centre group of thirty-six pillars in six parallel rows, and three groups of twelve each. Each group of twelve is in two rows of six ; one group standing in front towards the north, a second flanking the west, and a third the east. Four of these columns in the centre group had trilingual inscriptions upon their bases.

With regard to the style of architecture, it was very massive ; the columns were fluted,

and those in the outer groups had bases resembling an inverted lily—a kind of emblem of the name of the place. The inscriptions record that the building was founded by Darius, as is recorded by Pliny, who says, *vetus regia Persarum—Dario Hystaspis filio condita*, and completed by Artaxerxes.

The palace of Susa then resembled in architecture and appearance what we see at Persepolis, rather than the Sasanian takhts or thrones at Ctesiphon and Atra, which have no columnar decorations.*

The other relics found at Susa belonged to various periods, some of them as late as 700 or 800 years after Christ. A Christian church was, indeed, early planted here, but the city declined, fell into the power of the Muhammadans, and eventually all that remains of so many Oriental cities—a mouldering heap. May not the days of its prosperity yet be restored? It was from hence that Xerxes set out on his great expedition to Greece, and

* When Antigonus captured Susa, he is said to have found there a celebrated golden vine and other treasures, valued at 15,000 talents. (Diod. Sic., lib. xix. cap. xv.)

Alexander the Great is said to have found in the royal treasury of Susa 50,000 (or 40,000 according to Diodorus Siculus) unwrought ingots, or about £9,365,000. (*Chesney "Expedition, &c.,"* vol. ii. p. 290.)*

Further important researches have been carried out at Susa, as late as 1885, by M. E. Dieulafoy, assisted by his learned and courageous wife, and which resulted in the discovery that Darius' palace had been destroyed by fire, and that another and more sumptuous one had been erected upon the top of it† by his grandson, Artaxerxes, as proved by a long cuneiform inscription, containing the king's name and parentage, which ran along a magnificent frieze of painted and glazed tiles, representing striding lions, and which formed the decoration of the pillared porticos.

Out of the fragments collected, M. Dieulafoy succeeded in reconstructing another marvellous piece of work, a frieze representing archers of the royal guard. "One day," he says, "they

* Benjamin of Tudela referred to the place as still inhabited in his time.

† This accounts for the great height of the mound.

would bring me a hand, the next a foot in a golden boot. Adding piece to piece as they fitted, I put together the feet, ankles, legs, the skirt, the body, the arms, the shoulders, and at last the head of an archer."

There was a procession of these Persian Archers, in Highland costume, as well as of the lions. The "Ten Thousand," or "the Immortals," constituted the royal body of picked warriors well known to antiquity, and they wore sumptuous uniforms in different corps. What is archæologically still more interesting, is that some of their uniforms were covered with scutcheon badges, woven or embroidered in the stuff, very much like those worn by the retainers of noble and royal houses in the Middle Ages. These, with other facts that could be adduced, go to prove the remote antiquity of heraldic devices.

The Lion-frieze and the Archer-frieze are not the only specimens of Persian enamelled brick decoration brought to light at Susa. Hardly less handsome in a different way is the casing of variegated enamelled brickwork which adorned the battlemented parapet or banister

of the great double stairs that led from the plain to the great court in front of the palace, as at Persepolis, in a slope so gentle and steps so broad and low, that they might easily be mounted on horseback. Madame Ragozin compares them with the battlements at Dūr-Sharrūkīn (Ill. 53 in "Story of Assyria," "Story of Media," p. 338).

Not the least interesting of M. Dieulafoy's "finds" was the royal seal of the Akhaemenian kings of an opal-like stone. Two sphinxes guard the royal medallion, as they do the portals of Persepolis, and above is the figure generally assumed to be that of Ormusd, with the usual wings and kusti round the waist as in the Sasanian sculptures.

This device can, however, be traced back to the Assyrian Asshur-symbol, and it is, like that symbol, always found above or in front of the King, wherever he appears in the wall and rock sculptures of the Akhaemenians. "It is plain," says Madame Ragozin, "that they adopted it as the meetest emblem of their own supreme god—Ahura-Mazda—and we find it lavishly reproduced on all their monuments, be they palaces or tombs."

A column was also found exactly similar to those found at Persepolis, in the peculiar and complicated ornamentation of the upper shaft and capital, which seems to have been a distinctive and original creation of Persian art.

It is worthy of notice that M. Dieulafoy describes the city of Susa as having been cut in two by the Ab-i-Karkha (the correct orthography for the Kherkah, or Kerkhah, the ancient Khoaspes). On the right bank were the populous quarters ; on the left temples, or at least, a Ziggurat (also pronounced Ziyarat, a place of pilgrimage), the royal city, the citadel, and the palace.*

Sir Henry Rawlinson describes himself as being very anxious, on visiting Susa, to obtain a correct copy of the famous bilingual inscription upon the Black Stone noticed in "Ouseley's Travels" (vol. i. p. 420), and which was said to be preserved at the tomb of Daniel, and which, being bilingual, had always appeared to him as of the greatest importance to verify the then recent discoveries regarding the cuneiform

* The suburb beyond the Kerkah would correspond to Kerkh or Iwani Kerkh of the Middle Ages.

character; he was therefore all the more disappointed to find that this precious relic no longer existed.

The inhabitants of Susiana attached, as was common throughout the East, the most profound reverence to this extraordinary stone, and fiercely resented any attempt to rob them of it, believing that the prosperity of the province depended upon its remaining in their hands. Sir Robert Gordon having made an attempt in 1812 to obtain possession, it is said to have been buried to secure it from observation.

These "black-stones" appear to have been meteorites, and were venerated because they came down from the sky, or from heaven. We find probably the earliest notice of the reverence for such on a Babylonian tablet of dark clay found at El-Amarna in Upper Egypt, and interpreted by Professor A. H. Sayce (*Proceedings of the Society of Biblical Archæology*, vol. x. part 8) as alluding to "the black stone of the city of Abis," "the stone of black appearance," and as "the black stone of Solomon."

The history of the famous black stone of Ba'albek, or Emesa, is given in the writer's "Pers.

Recollections," &c., vol. i. p. 242. Its original site was the temple of Cybele, in Phrygia, where it is said to have fallen from heaven, which tradition also attached to it at Emesa. This stone is said to have been originally removed in solemn pomp from the temple of Cybele at Pessinus to Rome, in order to drive the Carthaginians out of Italy. It got thence, somehow, to Emesa, or, as is most probable, this was another local meteorite, taken to, or taken back to, Rome by the Emperor Elagabalus, who apparently derived his surname from the object of his adoration, for the stone was called "El Kabul."

Not the least renowned among these "black stones," or meteorites, is the one held in sacred reverence in the Ka'aba of the Muhammadan mosque at Mekka.*

* Mr. Ward, in an article on "Orientation" in the *Antiquary* for June, 1889, looks upon this stone as the most sacred stone in the world, and the oldest known site of Boetylia worship (Beit-Allah, "House of God": Bethel). But this we have shown was not the case, for it appears to have been anticipated by the stone of Abis, but that of Ba'albek had greater renown.

Nor does the term Ka'aba seem to have been originally

The "black stone" of Susa has also had its little history. After being buried, in order to preserve it from the clutches of Sir Robert Gordon, it was disinterred by the guardians of the tomb of Daniel, but is said to have been wantonly destroyed by a stranger Sayyîd, according to Sir Henry Rawlinson, in the hope of discovering within it some hidden treasure; the whole story, observes Sir Henry, is very curious (possibly, indeed, invented to put off further research); the fragments (for it was described "as having been blown to pieces with powder") were carefully collected and reinterred within the precincts of the tomb; but immediately afterwards the province was almost depopulated by the plague; the bridge of Shuster suddenly broke, and the famous dam at Hawîzah was carried away, all which disasters were ascribed to the destruction of the talisman. Some amount of confidence is to be given to

applied to the stone, but to have been synonymous with the Keblah of the Jews. Muhammad ordered his followers, in the first instance, to pray towards the temple of Jerusalem, which was the Keblah of the Jews and Christians alike.

the story by the circumstance, as narrated by Sir Henry, that this so-called Sayyîd was generally believed to be a Firingî in disguise, and he found in consequence the rancour against Europeans in connection with the "black stone," bitter and extensive.

The composition of meteorites has long been known, although the fact of the agglutination of the materials of which they consist, all of which are met with on our planet, cannot be said to have been satisfactorily explained. Still, if the small quantities of silica in chalk can be gathered together by some unexplained process into the nest formed by a sponge or other zoophyte ; or these very creatures of low organization can attract together the small proportions of silica held in solution or suspense by the deep waters of the ocean, to constitute those beautiful hyaline structures which have recently attracted so much attention, it can be readily imagined that the powers of attraction, or increased powerful electric tension may at rare times, agglutinate the dust of the higher regions into solid masses.

The presence of nickel in these meteorites

attracted much attention on the part of chemists and mineralogists, and this has been much increased by the discovery recently made by Messrs. Gropéef and Latschinoff in a stone that fell at Novourei Penza, of the presence of a substance which there can be no doubt is diamond. This substance is said to differ totally in its properties from the crystalline carbon (Cliftonite) discovered in meteoric iron by Fletcher (*Athenæum*, Sep. 10, 1887, and Feb. 16, 1889).

Even a still further interest attaches itself to these meteorites when it is considered that the recent researches with the spectrum would seem to establish that they are not limited to our atmosphere, but are actually concerned in the formation of those so-called nebulae which are supposed to be the earliest aggregation of newly-constituted stars.

CHAPTER X.

Town of Waïs—Ahwáz or Nasarieh—Ledges of rock and dam—Proposed Canal—Present state of the Town—Bridge at exit of Ab-i-Gargar Canal—Ruins of olden times.

THE only place, it might be called a large village or a small town, met with in the present day between Bund-i-Kír and Ahwáz is called Waïs, or Weïs. It is situated on the left bank of the river, some ten miles below the junction of the rivers, and yet in this interval lay in olden times the great city of Susa and its own watercourse, or canal, the Shapúr! It is situated at the end of a long straight reach of about ten miles, running almost directly south from Bund-i-Kír, and Captain Selby believed this reach to have been a continuation of the the Ab-i-Gargar. It is inhabited by the Anáfiyah Arabs, whilst the Bawí Arabs occupy the right bank. Both tribes are admittedly

lawless, and have been known to plunder up to the gates of Shuster. The people of Wa's were more inhospitable to Major Estcourt's party than any others we met with, driving Mr. Rassam out of the place. It has been assumed by some that we were a little imperative at times, but this was not the case, for only Mr. Rassam left the boat, and himself an Oriental, intimate with the character of the people, with long experience of them, and the last man to be rude or overbearing, there could be no cause for hostile feeling on their part that had its origin in any misconduct on ours. Captain Selby, it must be remembered, was in a steamer, whilst we were in a small native boat, and he took the precaution when at Ahwāz of dispatching a messenger to the Mu'tamidu-a-daulah, the Persian governor of Shuster, to announce his approach. It is true that, failing to obtain any provisions, we appropriated a sheep from among a flock pasturing on the banks, but I believe a higher price was tendered for it than it would have fetched in the market of Shuster, where a sheep only fetches three to four shillings, even when brought from a distance.

The town of Ahwāz lies some thirty-five miles, or thirty in a straight line, below Wārs, and therefore forty miles below the junction of the rivers at Bund-i-Kīr.

This place derives its chief interest from a ledge of rocks crossing the river at that point, and converted at one time into a bund, or dam, used also, no doubt, as a bridge.* It is this obstacle to navigation that gave birth to a port and town known to the Greeks and Romans as Agines and Aginis. Its modern name, Ahwāz, or Hawāz, is a form of the Arabic Húz, or Ház, "a body of people," as Hawizáh is another, and this we learn from Abü-l-fada was formerly the name of a district, one of the largest and most prosperous in Khuzistán, and the town itself was known as Súk ul Ahwáz, or the "market place" of the province. The *Euphrates* steamer

* There exists at Ahwāz a local tradition that the bridge formerly existing there was constructed by a maiden for the benefit of her lover. The lady in question appears to have forestalled Martial's epigram on Leander, "Mergito me fluctūs quem rediturus ero," rendered by Voltaire, "Ne me noyez qu'a mon retour," and to have ensured safety both on the journey and the return.

was stopped here ; but Captain Selby succeeded in carrying the steamer *Assyria* through an opening which presented itself on the right bank by the waters having carried away the soil beyond the line of rocks and dam.

There are no less than seven ledges of rock which cross the river in a direction N. 85° W. to S. 85° E. at this point.* The rocks on the left bank stand prominently out of the bed of the river, rising like artificial walls, being frequently hewn on both sides. They are traversed by fissures, which cut them at places from top to bottom, and by watercourses which have left arched passages at places, and near the top is a passage of some thirty paces in extent. These fissures and arches have, with the exception of the top, been filled up with stone and mortar, of which fragments are also met with in one place on the summit.

A causeway of masonry, of which only frag-

* Major Wells in his admirable topographical sketch of these obstructions to navigation on the Karún (*Journ. of Roy. Geo. Soc.*, March, 1883) divides them into four groups, and so they may be accurately described ; but they constitute seven distinct ledges, and even more at low water.

ments remain in the present day, took its departure from the extremity of the wells to cross the river, and which being broken down on the right bank leaves a passage for the river, by which the steamer *Assyria* was enabled to effect a passage. This causeway is thirty-one feet wide, and the largest stones were three feet in length, and the precaution had been taken, as they are of laminar sandstone, to place them with the laminæ vertical, by which means greater durability was insured. Sir John Macdonald Kinneir actually thought that he saw in these relics the remnants of the palace of Artabanus, the last of the Parthian kings. The old bridge may, however, have played an important part in the war of Eumenes and Antigonus.*

* General Schindler said he had not seen any mention of the destruction of the dyke at Ahwáz in Persian histories, but it was ascribed in legends to a wicked merchant who "cornered" sugar, and after a time, when the price had gone up and he opened his bags, they were full not of sugar but of scorpions, which were so venomous that when they dragged their tails over a thick felt carpet they cut it in two ! These scorpions came out in such vast numbers that the people fled for their lives and never returned.—*Journ. of Soc. of Arts*, May 10, 1889.

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Some seven years ago Major-General Sir R. Murdoch-Smith, instructed Major Wells, R.E., then serving under him in the telegraph department, to examine the Ahwáz barrier, as to the means of turning or surmounting this obstacle to a free navigation of the river. That officer's report showed that the rapids may be easily turned by a short canal on the left bank, only 2,350 yards long, for the making of which, with the necessary lock gates, the sandstone formation at that point is peculiarly well suited.

Major Wells estimated the total fall over the rapids at from eight to ten feet, and in no part of the canal would the cutting have to be more than thirty-five feet deep to give a depth of eight feet of water.

Sir Austen H. Layard, it is to be observed, thought that a mere widening of the passage between two of the rocks in the river bed would suffice; but a glance at Major Wells' map, published in the *Journal of the R. G. S.* for March, 1883, will suffice to show that this would scarcely be sufficient, and such an opening might have the effect of seriously lowering the depth of the channel above the bund—an evil

which would be remedied by the proposed lock-gates, and the dam being kept in order. It is evident from Major Wells' report that the rapids can be superseded without engineering difficulties, and at no very great expense. Once such a work was completed, there would be excellent navigation the whole way to Shuster throughout the year, and it is earnestly to be hoped the Persian Government will immediately undertake the work.

The present town of Ahwáz is surrounded by a mud wall, and has a castle similarly defended, but in a ruinous condition. There are, or rather were, about seven hundred houses with a population of some three thousand souls. There is a small track of land devoted to gardens to the north-east, and the beds of canals of irrigation are visible and delineated in Major Wells' map as once derived from the south-east. With the above exception almost all the rest around is either ruin or desolation. But some distance to the south, at the lower part of which was formerly sugar plantations, the soil is still made available for agricultural purposes.*

* Professor Vambery has also pointed out that Ahwáz

The ruins of old Ahwáz stretch to the north-eastwards, for a distance of half-a-mile, by a quarter in width. To the south-east they extend however for about a mile, and they are thus divided into two groups by the ridge of

was famous in the time of the Khalifate for its carpets, especially a particularly fine description made of silk ; and Hussein, an Arab poet, in praising the object of his affections, said her cheeks were as fine and smooth as an Ahwáz carpet.

no? Professor Vambery also justly pointed out that the opening of the Karún would not be very useful unless a railway (or a road ?) were made from Shuster to Ispahan or Kūm. But the Shah, he said, did not give concessions to any nation without the consent of the Czar, and he did not believe he would ever consent.

Certainly, if it is true that the Czar, upon his interviewing the Shah, personally intimated that if he (the Shah) made any further concessions he would put his army on the frontier (estimated at 100,000 men) in motion, his position is not a pleasant one. But he has to consider between the threats of a power which aims at subverting his empire, and the interests of another which wishes to uphold that power and ensure the prosperity of the country. The Persians are too astute not to know to which to give preference as far as they dare do so. We entertain no doubt but that the Shah will either grant a concession to open a way from the Karún to Kūm or Ispahan, or that he will construct such a road himself.

rocks. To the east the bed of a canal is seen to join the river, and it passes right through the town, where it was crossed by a bridge of two arches, each of twenty-two feet span. This canal, which appears to have been the old prolongation of the Ab-i-Gargar, passes at about three-fourths of a mile distance from the ruins into the Karún, above the great Bund, and appears to have been some three hundred feet in width. To the south, the former extent of the town is chiefly to be traced by bricks and pottery, and similar remains are found on the right bank of the river. Occasional stair-cases are met with in the rocks leading up to what appears to have been sepulchral grottoes, but on the north-eastern side is a great cave. On the same side is a mound of ruin which possibly represents the site of a mosque, which Oriental history tells us was erected here by 'Azádúd Dulah, or Dauleh. At a point further east is a collection of grinding stones, used in the old sugar mills. They lie chiefly in rows, and I counted two hundred and fifty of them, but there are probably twice that number. The

largest was three feet in diameter, and eighteen inches in thickness.

Amongst the ruins occurred yellow baked bricks, red bricks, vitrified bricks and tiles. Also pottery, yellow and coloured blue and green, sometimes with figures. Glass also coloured or altered by time, as also occasionally coins and gems. The buildings seem to have been chiefly built of the red sandstone of the neighbourhood, with basalt for cornices, door plinths, &c.

The Orientals were not without a sparkling of humour in their literature. Thus one Adjail ul Maklukat Ahmed Tusi says that the air of Ahwáz had a tendency to render people stupid, which may be placed upon a par with the sayings that the air of Mosul made people prudent, and that of Ispáhán greedy.

CHAPTER XI.

Ahwáz, a Nestorian Episcopacy—Ancient Sugar-factory
 —Captured by an Anglo-Indian force—Under a
 Sheikh of the Cha'ab Arabs—Country around—
 Great salubrity—Ascent of the *Blosse Lynch*—
 Persian steamer *Susa*—Future Prospects.

I HAVE entered into particulars regarding the history of this interesting place at such great length in my "*Personal Narrative of the Euphrates Expedition*," vol. ii. p. 224, *et seq.*, that repetition is unnecessary here.

It may be noticed, however, in addition to what is related before, that anterior to the reign of Shapúr-Dhu-l-Aktaf, about A.D. 350, Ahwáz was the see of the Nestorian Metropolitan, and was called Beth Laheb (*Assemani, Bib. Orient.* t. iv. p. 758). After that time the episcopacy was removed to Jundí Shapúr, which Sir Henry Rawlinson identifies with Shah-'Abád, five or six miles from Dizfúl.

Two great points, however, stand prominent. One is, that in the time of the Khalifate it was the seat of a large and prosperous sugar factory—a state of things which was unfortunately put an end to by the revolt of the Zanghis, or Nubians and people of Zanzibar, employed in the plantations and factories. The great mill-stones used in the latter are, as we have observed, still to be seen. Another is, that at the time when an Anglo-Indian flotilla ascended the river at this point in pursuit of the retreating Persians (in 1857) considerable booty, including immense quantities of grain and flour, fifteen cases of perfectly new firelocks, fifty-six mules, and a large flock of sheep were captured. Captain Selby, we have seen, found at the extremity of the bund an opening about forty yards broad, and through this (with the exception of a portion of the water that finds its way over other small places, where the bund is worn or broken away), the whole of the river, here about two hundred yards broad, rushes with a fall and velocity at first sight quite enough to induce the supposition that no steamer of 100 feet in length could be forced through it.

Having, however, succeeded on the first attempt in overcoming this difficulty with the steamer *Assyria*, and having, as he says, thus practically demonstrated that it really is an obstacle of but little importance, he trusts that advantage may be taken of the knowledge thus obtained.

It does not appear, however, that the *Assyria* or any other vessel attached to the flotilla of 1857 attempted to navigate the river beyond this point.

We have also before observed that we found immediately in advance of the town, and above the ruinous dam, traces of a bridge which crossed a great canal, which we fancied at first to have been drawn from the Karún—the waters being tilted up higher than the level of the adjacent country—to irrigate the land; but when we consider that water does not flow backwards and upwards, it seems more likely to have marked the point where the Ab-i-Gargar, which Captain Selby thinks to have flowed along the bed of the Karún itself, really passed into that river.

The Sheikh of Ahwáz, who rules under the chief Sheikh of the Cha'ab Arabs was friendly to

1867
1866 our party, and particularly so to the flotilla—the Cha'abs being hostile to the Persians; but it appears, that in Captain Selby's time he manifested at first great jealousy regarding his proceeding upwards; but this may have been that he did not wish the Persians to benefit by the opening of the river to navigation, as well as the Cha'ab Arabs.

About nine miles above Ahwáz was an abandoned fort, called like its representative on the Tigris, Kut-al-Hamrah, but also called Kut-al-Anísí (Kut designating the residence of a Sheikh, as with the Muntifik Arabs), and a mile and a-half further up the stream was a village called Al Kra'ada. Between the Karún and the Jerrahi, a country we crossed on our way from Dorak, there is in the present neither cultivation nor population—a plain of gravel, with a sloping to the west with an occasional rivulet, and bounded to the east by the long, low, but rocky ridge of tertiary sandstones, which constitute the ledge at Ahwáz.

The country around Ahwáz, although very hot in summer, as proved by its being favourable to the growth of the sugar-cane, is ex-

tremely salubrious. There is neither marsh nor jungle, all is open and healthy, and hence Captain Selby says that neither he nor any of his crew were affected by the great heat. Even supposing the former prosperity of the place could not be restored by the cultivation of sugar, rice, cotton or maize, it would inevitably become a place of importance if the navigation of the river is opened to commerce.

It was probably in part owing to this salubrity of the country around that the city of Susa had its origin.

It appears from the letter of a correspondent of the Standard newspaper of April 4th, 1889, describing the first ascent of the Karún by the steamer *Blosse Lynch*, after the conclusion of the Treaty of Commerce, that the Shah has changed the name of Ahwáz to that of Bunder-i-Nasarieh, after his own name Nasreddin. The *Blosse Lynch* was so named after the gallant officer who commanded the *Tigris* steamer when that vessel was lost on the Euphrates, and who did so much towards the exploration both of that river and the Tigris. The Lynches were indeed the founders of the commercial

navigation of the Tigris, and are still its great upholders, in the person of T. K. Lynch, as Chairman of the Euphrates and Tigris Steam Navigation Company.

Mr. Gaskin of that company had already erected huts of poles and mats for the accommodation of the party on its ascent of the river. There was also a tent with Persian soldiers, charged with seeing that the thirty-two stipulations under which the river has been opened to navigation and commerce were duly carried out. The head government official was one Serang Yusuf (Joseph) Khan, a Major of Artillery, who is described as a man full of activity, and evidently anxious that trade should be developed as rapidly as possible.

The Persians had a steamer called the *Susa*, about seventy-five feet long, and sixteen feet beam. She was bought at Berlin, and is destined to ply between Ahwáz and Shuster, which, as she draws only three feet of water, she seems admirably adapted to do; but she had not yet been got through the narrow and rocky channel of the Bund, and the writer says she is so admirably constructed that she

experiences great difficulty in getting herself round the corner of the Karún when there is any strength of current.

The said correspondent seems altogether to have seen things in anything but *couleur de rose*. He describes the town, situated some two miles from the port or landing place below the Bund, as "dirty and unhealthy," and as a most unpleasant place, containing probably, in the present day only 1,000 to 1,200 inhabitants.

As to the route *via* Shuster, he says, it is open to question if it will save time, or be cheaper than that from Bushire. He remarks that a commerce stopped at Ahwáz cannot add to the influence of England in Southern Persia ; but he will find that the skill and enterprise of the English will soon supersede that of the Tagílls, and that they will be as glad and as ready to give up the navigation of the upper river into their hands, as they have been that of the lower Karún. As to the Political Resident of England at Bushire exercising an amount of influence it would be difficult to add to, even if a dozen Karúns were opened up to trade ; that is beside

the question, which is one of commercial expansion, as well as of political influence; but the one will follow upon the other.

As regards the business that will be done on the Karún, he expresses himself as by no means sanguine as to the imports being of any importance for some time. Exports, he thinks, should largely increase; and in any case, he adds, the English firms at Bussorah are by no means likely to leave any stone unturned to develop business to the uttermost. They are already taking an active interest in the matter, and if a good trade can be done it will be.

The desponding correspondent, indeed, incidentally bears testimony to what trade may do, when he describes the large and handsome houses of the great date-growers, "houses like palaces in their size and their elaborate comfort," which have sprung up since our time on the banks of the Shat-al-Arab, and that mainly from the export of one single article of commerce.

CHAPTER XII.

General course of the Karún—Towns and Villages along its banks—The Karún al Amah or Blind Karún—Ka'aban or Gaban Canal—The Cha'ab or Ka'ab Arabs—The Bahmíshír—Its navigability—The Delta of the Karún.

THE general course of the river Karún from Ahwáz to Muhammrah is from S.S.W. to N.N.E., passing through a country tenanted by the Bawí and Idrís tribes, both subject to the Cha'ab. Only two towns are met with on its banks in an interval of some ninety or a hundred miles by river ; one, Isma'iliyah, commonly called Ismatli on the old charts, which carries on a little trade with Shuster and Muhammrah ; the other, Idrisiyah, also called Idrísí, a small fort and town on the left bank, the residence of the sheikh of the Idrís Arabs, a place of no trade or importance.

The bed of a canal called the Nahr al Matúr or Matúah, "cut canal," is met with on the right

bank, some fourteen miles by river below Ahwáz, and the ruins of an ancient building are met with in the neighbourhood.

This canal is said to still carry water from the river Kerkah to the Karún at certain seasons, and hence it must have been of much importance in olden times, when a communication was thus established between the two rivers.

There are also several villages to be met with, more especially on the right bank — most numerous near Muhammrah. First from that emporium of commerce comes Al Húwaisha, at a distance of four miles, with some ten houses on the left bank ; then Bushire, same bank, with ten houses ; then Kayír with about twenty houses ; next, Abú Butak, a village of mat and date-tree branches on the right bank. Then Músra with ten houses, left bank. Next Gísbar or Kísbar, with about twenty houses on the right bank, at a bend of the river. The last date trees are met with here.

The ruins of a deserted village and fort called Sabla or Zabla, are seen on the right bank opposite to where the Karún al Amah takes its departure from the main stream. No doubt a

place of importance, when that stream was still navigable.

The Jiham Numa, and other oriental geographers, having described the Haffár canal as four parasangas, or twelve miles in length, it would appear that the whole bed of the present river from the Karún al Amah was an artificial channel. A Cha'ab sheikh—Sulaiman by name—is said to have constructed a bund or dam across the river at this point to turn the waters of the canal into its old bed, and fertilize Dorakstan.

An artificial canal called the Gaban, or more correctly, Ka'aban,* carried in part through a morass, takes its departure from the mouth of the Karún al Amah, and flows in a southeasterly direction to Dorak, the capital of the Cha'ab Arabs. This was navigated in a native boat by a small party, consisting of Major Estcourt, Charlewood, Rassam, and the writer.

The history of the Cha'ab Arabs, who occupy the whole of the delta of the Karún from the Jerrahí to the Shat-al-Arab, has been told by Layard,† and by the writer (*Pers. Narr.*, vol. ii.

* Layard writes Kobbán.

† "Description of the Province of Khusistan" (*Trans. Roy. Geo. Soc.*, vol. xvi.).

p. 205, *et seq.*), but they were known long before this, for Dean Vincent records in his *Commerce of the Ancients* (vol. i. p. 427, 4th ed.), that the name of the Cha'ab Arabs became first known in this country about the latter part of last century, in consequence of their piratical exploits in the Persian Gulf. Niebuhr describes the Cha'ab Arabs as having in their possession, in his time, all the territories and islands adjoining the Shat-al-Arab. (*Voyage en Arabie*, tome ii. p. 160, Swiss Edition of 1780.)

Captain Selby writes of Bámushír, as he spells it (it is variously written Bámíshír, Bahmíshír, and Bahmíshere, the name being derived according to Sir Henry Rawlinson, from Bahmen Ardashír), as the direct, the natural mouth of the Karún, and the one by which it formerly emptied itself into the sea, and this was undoubtedly the case at one period.

We explored this river for some distance, and taking a few men with us to make up a party, made an excursion overland to try and reach the bed of the Karún al Amah, but Major Estcourt did not persevere, and we returned after a long and ineffectual march.

Captain Selbysubsequently steamed down the channel from Muhammrah to the sea and back, finding a channel of not less than nine feet at low water. The reason, he says, why the opinion of its impracticability has always been fostered by the Turkish authorities, will be evident when it is borne in mind that the Khor Bámushír is strictly in the Persian dominions, being the natural outlet of the Karún, one of its rivers; and consequently should vessels, in their intercourse with Muhammrah from India, Arabia, or other parts, use that channel, they would escape a heavy impost now laid on all vessels entering the Shat-al-Arab; and much of the trade now carried on with Basrah would be absorbed by Muhammrah, which already, notwithstanding the disadvantages it has laboured under, is fast eclipsing the other place.

If this is the case, the Persians, now that they hold Muhammrah, should encourage the navigation of the Bahmíshír; but I have entered the Shat-al-Arab in the schooner attached to the British Residency at Bushíre, as also by a Persian boat, and heard nothing of a toll raised

at the mouth of the river ; but my experiences may have been exceptional.

The Bahmíshír has been identified with the Mosæus of Ptolemy, and this would seem to be the case, for the "Vallum Pasini" or Haffar Canal, lay between it and the junction of the Euphrates and Tigris ; but the point is not clear, for the Alexandrian geographer enumerates in succession from west to east, the Sinus Mesanius (Mushan, off Grane or Kúwait)—the Sinus Messanites ; then the Ostium Tigris Occidentale (the Pasitigris or Nahr Saleh) next the Vallum Pasini ; then the Mosæus, and then the junction of the Euphrates and Tigris.

There are at present seven inlets on the delta of the Karún, between the Shat-al-Arab and the Indiyán ; first, that of the Bahmíshír ; second, that of the Karún al Amah ; third, that of the Musa or Musa-wiyala (which as far as preservation of names go, would appear to represent the Mosæus) ; fourth, the Haig ; fifth, the Huwai or Houay ; sixth, another Khor Musa, which is a mouth of the river of Dorak, formed by the Junction of the Jerrahi with the Karún. The other mouth (the seventh), is the

Lasba. With the exception of the Bahmíshír, the Karún al Amah, and the Jerrahi, it has not been determined whence those inlets derive their origin. We crossed in a diagonal direction from Karún al Amah to Jerrahi, without seeing traces of such, but we passed through extensive marshes where they might well be lost.

CHAPTER XIII.

The Haffar Canal—Muhammrah—Its position most advantageous as a Commercial Port—Independence of its Sheikh—Ancient state of the Estuary of the Karún, Tigris, and Euphrates—A vast lacustrine expanse—Islands of Messene.

THE present communication of the Karún with the Shat-al-Arab is established by means of the Haffar Canal, about three-quarters of a mile in length, from two to four hundred yards broad, and with a depth varying from thirty to forty-two feet of water.

There has been much difference of opinion as to the nature and origin of this canal. Some have been found to urge that it is, or was originally, a natural rather than an artificial cut. But this idea is not upheld by the appearance of the channel. The general course of the Karún is from north-east to south-west, but at this point it is made to take a direct easterly course to join the Shat-al-Arab.

Then, again, some quote Herodotus as dwelling upon this very work as a triumph of art, and Ptolemy, we have before observed, makes mention of a *Vallum Pasinæ*, or Pasini, but both may have applied to another cutting, more particularly to that which brought the waters of the Khoaspes to the Eulaeus, now known as the Matúr or Matúah Canal. Sir Henry Rawlinson adduces overwhelming evidence from the Oriental historians and geographers that the prolongation of the Karún beyond the Karún al Amah, and thence by the Haffar Canal, was the work of the Persian, and not of the Assyrian, monarchs, and he traces the Bahmíshír to Ardáshír Babegan.

The town of Muhammrah stands upon the two banks of the canal. The history of the place—ever a bone of contention between the Persian and Turkish empires, although almost always in the hands of the Arabs—has been given at length in my *Personal Narrative of the Euphrates Expedition*, vol. ii. chapter v. pp. 168 and 169, so I need not enter into details.*

* There exists a bar at the entrance of the Haffar canal, which, it is said, could be easily removed ; but the reader of the "Personal Narrative of the Euphrates Ex-

Captain Selby said of it:—"From its admirable position, having the Karún to the north-eastward, by which it communicates with the Persian fertile provinces of Khuzistan and the possessions of the Ch'ab Sheikhs; the Shat-al-Arab to the north-westward, by which there is an uninterrupted communication with Basrah, Kornáh, Hillah, and Baghdad, and in fact all the countries watered by the Euphrates and the Tigris, and a passage to the sea both by the Karún and the Shat-al-Arab; its merchants well informed, energetic, enterprising men, and the people active, and much less bigoted than the Turks, the present possessors of Basrah, *Muhammrah must ere long become, in a commercial point of view, the most important place on the rivers of Mesopotamia.*" The italics are our own, so entirely do we agree with the gallant officer's

petition" will remember the pertinacity with which the Turkish Commissioners held by the question of territory. "You may take Muhammrah," he said to the Persian claimants, "but we hold by the land," and the Turks have upheld their character for obstinacy in constructing a fortress at a place designated as Fao (probably Faúh), and that notwithstanding Persian opposition, backed by British influence.

opinion. Captain Selby, however, extols the great salubrity of Muhammrah, a point in which he differs from the experience of others, as well as that obtained at the time of the Anglo-Indian expedition against the place, and my own.

A correspondent of the *Standard*, who accompanied the first expedition up the Karún since the completion of the Treaty of Commerce,* writes of Muhammrah as being three miles up the Karún. Is this an inadvertence, when the Haffar is only three-quarters of a mile in length, or have the Persians, for political reasons, removed the town to the more salubrious regions above old Muhammrah? There are at that distance, or less, from the Haffar, villages or huts on a gravelly and sandy soil embosomed in date

* Mr. T. K. Lynch mentioned at the meeting of the Society of Arts held May 3rd, 1889, that the Shah having opened the river, his company had two vessels there within three weeks, which were now making fortnightly trips, though as yet at a great loss, having spent about £2,000 and only got back about £500. But this must be expected in a first essay, where the natives are mostly ignorant of the opening for commerce presented to them. Nor will matters, as Mr. Lynch justly added, be much improved until the stoppage at Ahwáz is removed by friendly or diplomatic pressure.

groves, and which must certainly possess a more salubrious air than Muhammrah proper. But the site would not be so well adapted as a port for commercial purposes.

The same correspondent attests of how little value are the decisions of a mixed commission as to the respective claims of Persia and Turkey to the territory of Muhammrah, when he states that a Sheikh Moussil or Músil, whose residence is at Filieh on the Shat-al-Arab, a few miles from Muhammrah, rules like an emperor over the country that lies between Muhammrah and Bunder-i-Nasarieh—the new name given to Ahwáz.

“Every man,” says the writer, “is prepared to take up arms at a moment’s notice in the Sheikh’s service, and no command of the Shah, or of any of his governors, stands a chance of being obeyed, unless approved of by this powerful Sheikh. All the taxes of the province flow into his treasury, and he pays over to the Shah what amount he thinks fit. These frontier provinces are wild and unmanageable, except by the authority of the local sheikh, who is as despotic and as powerful as ever was any chief of a Highland clan.” (*Standard*, April 4th, 1889.) And so it has

been, and probably ever will be. The Shah is by no means impolitic when he leaves to the English the navigation of that part of the river, which he can barely say is his own, and reserves to himself the navigation of that portion which is, or rather ought to be, more particularly Persian.

It seems possible, if not probable, that at a very remote period the Tigris emptied itself (at all events in its navigable part) by the *Shat al Haṛ*, or *Pasitigris* proper, into the Euphrates, and that the united rivers flowed by the *Pallacopas*, or the continuation of that canal or river, to the sea at *Teredon*, or *Diridotis*. The *Karún* found its way to the sea by the *Karún al Amah*, until the first *Haffar Canal* conveyed it to the *Bahmíshír*, and a second to the *Shat-al-Arab*.

The whole of the interval, where are now *Kornah*, *Basra*, and *Muhammrah*, was a lacustrine expanse, including the lakes of *Khaldaea* and of *Susiana*, and their estuary, which then constituted part of the Persian Gulf, with part of *Mosene* and the island of *Abādān*, alone as dry land.

The existence of such a state of things would

alone explain the conflicting statements of ancient historians and geographers ; wherefore otherwise, did Nearchus, to reach the Eulaeus, ascend to Diridotis and cross thence the lake of Susiana ? Wherefore, also, did Alexander descend by the Karún to the sea to proceed to Diridotis, whilst he sent the unseaworthy boats across the lake of Susiana ? Polycletus tells us that the Eulaeus (the Karún), the Khoaspes (the Kerkah), and the Tigris emptied themselves into a lake. In the same manner Strabo (lib. xv. p. 729) says that all the interval between the coast of Arabia at Diridotis and the extreme of the coast of Susiana was occupied by a lake or marsh ; and lastly, Pliny (lib. vi. c. 23) makes mention of a lake formed by the junction of the Eulaeus and Tigris near Charax.

The distance from the lake to the mouth of the river itself was, according to Nearchus, six hundred stadia. This would (using the Greek Itinerary as adopted by Major Rennell) carry the navigator across the country to the site of Ahwáz. And at the river, says the same navigator, is Aginis, a village of Susiana, which is five hundred stadia, or forty-eight miles from

Susa. This would place Aginis at the cut of the Matúah, rather than at Ahwáz. But it is recorded that at Aginis there were falls and impediments on the river, so that the identity may be considered as satisfactory, as at that time the embouchure of the Karún was, as before explained, at a less distance from Ahwáz.

Strabo also speaks of a place of commerce on the Susian lake, from whence goods were transported by land eight hundred stadia to Sus. The distances are excessive, but he also alludes to rocks or impediments preventing goods being taken up the river beyond that point which determines the identity of sites.

According to the Jihan Numa, the Kerkah flowed into the Karún previous to the latter flowing into the Shat-al-Arab. Gosselin says the same thing in his notes to the Paris edition of Strabo (1819), and we have seen that a communication exists to the present day by the so-called Matúr or Matúah Canal.

The question of the varying condition of the mouths of the Euphrates, Tigris, Kerkah, and Karún rivers, as also that of the great lakes, which unquestionably lay at their mouths, is,

however, involved in so much obscurity, that these ideas are put forth rather to incite to further inquiry than as an attempt to solve so difficult a question ; and after all, except in an historical point of view, and as aiding to explain the movements and proceedings of the conquerors and navigators of old, they are of little import, for what we have to do with in the present day is the existing state of things, and the comparative navigability of the different rivers and their tributaries or derivatives.

PART II.

THE MOUNTAIN PASSES.

CHAPTER XIV.

The great Commercial Routes to Central Persia—Petty Railways out of question—Feasible roads essential—The Karún the nearest approach to Central Persia from the South—Comparative distances of Towns and fertile Provinces.

THE great commercial routes between Europe and Persia unquestionably lie, up to the present, through Russia. The routes from Resht through Kasvín, and from the Caspian through Sha'rníd (which, with the progress of time, will be converted into railways) are the main channels for Russian commerce, as those from the Persian Gulf and Baghdad, and it is to be hoped we may now add by the Karún, are the main channels for British and Indian trade. The route from Trebizond on the part of Great Britain, and from Batúm and the Trans-Caucasian provinces on the part of Russia to Tabriz, may still be said to be divided, but the lion's

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share lies with Russia. It is sad to read in Captain Selby's pages, that notwithstanding we have a political resident at Bushire, and an Euphrates and Tigris Steam Company, the manufactured goods in the very remote and peculiarly Anglo-Indian markets of Shuster and Dizfúl were, in his time, chiefly of Russian origin.

Mr. E. F. Law, commercial attaché for the Asiatic Provinces of Turkey, suggests as schemes for facilitating communications (published by the Foreign Office No. 119) that the most important for English interests would be the making of a railroad from Baghdad to Teheran, and the making of a rail, or even an ordinary, road from Shuster to Būrūjird, so that British commerce might derive some advantage from the opening of the Karún River, as also the removal of the artificial obstructions to the through traffic by the Afghan route, viz., that from Kala Abdullah Khan through Herat.

Of the latter point we are incompetent to speak, but of the two that precede it they could scarcely recommend themselves to any one acquainted with the difficulties presented by the

mountain passes of Kurdistan. As far as the construction of ordinary roads is concerned, such a proceeding is feasible and essential, but in as far as such visionary schemes as railroads from Baghdad and Shuster to the interior of Persia are practically concerned, we should wait till the great highway from Constantinople *viâ* Erzerúm, Tabríz, Teheran, and Herat to the Bolan Pass is carried out, then it would be time to consider the advantage of petty railways.

An alternative route to India by the Euphrates or Tigris Valleys should also, after a direct railway to India *viâ* Teheran, take precedence on commercial, as well as political, grounds, and for the resuscitation of old and once well-populated Biblical lands, of what appear to be minor, but would be very expensive undertakings.

Major-General Sir R. Murdoch Smith, in his address to the London Chamber of Commerce (*Journal*, vol. viii. No. 85, p. 52, *et seq.*) justly points out that the configuration of the Persian Gulf is such, that the further up the Gulf you go, especially after you pass Bushire, the more you approach the centre of Persia. This fact

must therefore be taken into account in estimating the value of the Karún route. The end of the Karún navigation at Shuster is nearer to the central part of Persia than Bushire is, not only by the 170 miles of river and estuary, but also by the 180 miles of sea between Bushire and the mouth of the Shat-al-Arab.

“In other words, 320 miles of water-carriage may, by means of the Karún route, be substituted for as many miles of pack-saddle transport by the Bushire one. To realize what this means, let us imagine for a moment the whole traffic between London and Scotland carried on by means of beasts of burden, and then a line of steamers to be suddenly started between London and Berwick.

“So much as regards distance in general. Let us now look at some of the more important distances in particular, beginning with Ispahan. From Shuster to Ispahan there are two roads, one by Bazūft and one by Mal-i-Mir, both of which have been examined by Mr. George Mackenzie, one of the ablest of the many great pioneers of commerce and civilisation of which our country can boast, and who is at this

moment, as you are all aware, engaged in organizing a great national civilising undertaking in East Africa. By one of the roads Mr. Mackenzie gives the distance as 258 miles, and by the other 266, or, in round numbers, just half the distance between Ispahan and Bushire, which we have already seen, is 520 miles.

“What is probably still more remarkable in reference to comparative distances, is that Teheran, with about 120,000 inhabitants, and where British trade has to struggle against the growing competition from the North, is in round numbers 1,000 miles and 800 miles respectively from Trebizond and Bushire, the two ports on which its trade with England depends; while from Shuster *vid* Būrūjird and Kūm it is only 400 miles.

“From Kīrmanshah, the centre of a very rich wheat-growing province, the distance to Shuster is 250 miles, as against 220 miles to the Turkish river-port of Baghdad. From Hama-dan, the capital of another rich, well-watered province, the distance is 260 miles to Shuster and 320 miles to Baghdad. From Būrūjird, a

very important trade centre, at present practically inaccessible to foreign trade, the distance to Shuster is 200 miles. From Sultanabad, the centre of a rich province, and of the carpet-weaving industry of Persia, the distance *vid* Ispahan to Bushire is about 700 miles, while to Shuster it is only 230 miles.

"These districts," Sir R. Murdoch Smith continues, "viz., Kirmanshah, Hamadan, Būrūjird, Sultanabad, and Ispahan, form a rich central zone across the centre of Persia, of salubrious, fertile, and well-watered country, capable of exporting large quantities of various kinds of produce, and thereby of absorbing a greatly increased amount of British manufactures."

In respect to physical difficulties, Mr. Mackenzie considers that the roads between Shuster and Ispahan are, if no better, certainly not worse than the road from Bushire to Shiraz. As regards water and pasture, they are remarkably well supplied, and both pass through what is rare in Persia, a broad belt of splendid forest trees, such as oaks, planes, and beeches. For some weeks in the depth of winter both roads

are liable to be blocked with snow, and it appears that caravanserais are wanting. The other road northward from Shuster, that namely *vid* Dizfúl to Būrūjird, Kirmanshah, Hamadan, and other parts of the plateau, has, however, much less difficult country, and is equally well supplied with water and pasture.

CHAPTER XV.

Character of the Country between Ispahan and Shuster

—The first Pass, that of Rukh—Pass of Zerre or Zara (Zagros?)—Plateau of Ardall—Group of lofty Snow-clad Mountains—Head waters of the Karún—The Tang-i-Siah—Luxuriant Vegetation—Dopulan, “the two bridges”—Forests of Oaks—Successive cents and descents to Hilisat—Difficult descent to the Rudbar Valley—Parallel Valleys—Bridges at Shalil.

A GOOD idea may be obtained of the character of the country between Ispahan and Shuster from the report of Major Wells, who surveyed the passes in company of Mr. W. Baring, First Secretary to the British Legation at Teheran. (*Journ. of Roy. Geo. Soc.* for March, 1883.)

Crossing the Zendarúd river by a brick bridge, the road for the first twenty-five miles proceeding from Ispahan to Shuster is tolerably good, through populated rice-grounds, with only one pass, that of the Gerdineh Goopyseh. Beyond

this point—the village of Chirmíni—it began to ascend the slopes of the hills by the Pass of Rukh (6,850 feet), the very first of the passes, stated to be quite impracticable for guns.

Beyond this range, it entered a district known as the Chahar-mahal, and which is under the jurisdiction of the Ilkhaní or chief of the Bakhtiáris.

This so-called Chahar-mahal country was chiefly plain, under cultivation, with plenty of water, villages numerous and large, and a level road, but at an elevation of some 6,000 feet or upwards, with a gradually narrowing valley and a stream 10 feet broad and 3 feet deep. A sharp ridge of rock some 300 feet in elevation has to be crossed between Shamsabad and Shelamzar. The most elevated of the sources of the Karún river are said to be in this neighbourhood.

Beyond this, however, there is a bad bit of road over the pass of Zerre or Zara (9,300 feet) with two small lakes ; the descent, which is to the plateau of Ardall, is described as "stiff." The Ilkhani or chief of the Bakhtiáris has his residence on this plateau, which is nearly sur-

rounded by lofty mountains having perpetual snow on their summits. The Kúh-i-Kalah is over 12,000 feet in height; the Kuh-i-Gerreh over 14,000; the Kuh-i-Zerre or Zara is still loftier; and there are other high ranges, the Gerdan Zerre or Zara (9,300 feet), and the Kuh-i-Sabz and Kuh-i-Dinar.

The river from Chahar-mahal joins the Karún on this plain, which is here called the Kuh-i-rung, and which Major Wells suggests to be the origin of its abbreviated form, Karún or Kúran. The plateau of Ardall is devoid of trees, although the lower spurs of the Kúh-i-Sabz are covered with oaks.

The Karún escapes from the plain of Ardall through the tang or gorge of Dopulan, between Mount Gerreh and the Kúh-i-Sabz, and the road to that place is described as bad, with at one place a descent of 1,000 feet of precipice, and the remainder, some four miles, as very bad.

It is to be remarked, however, that there also exists a road from Ardall to Dizfúl, *viâ* Bazuft, which is said to be nearly the same distance to the plains, as the road to Shuster, but which is

far more difficult in winter. It was, however, travelled by Mr. Mackenzie, who has recorded its stages.

The river Tang-i-Siah flows through a deep cut gorge at a depth of 1,000 feet below the plateau of Ardall, between perpendicular cliffs of limestone and conglomerate, and at the foot of the cliff, and wherever there is holding ground, oaks, ash, and pistachios are plentiful. A vine with leaves like a grape vine, but fruit like the elderberry, climbs over the rocks. (Has this grape vine any affinity with that of the Corinth grape, known as currants?)

Wild almond, clematis, and willow, as well as planes were common. After winding about for some two miles at the bottom of the gorge, our travellers reached the picturesque village of Dopulan or Dú-Púl-an, "the two bridges," on the left bank of the Tang-i-siah, which flows into the Kuh-i-rung or Karún, just below the village. The former is spanned by a wicker bridge, the latter by one of brick. Hence the name of the place.

The road from hence to Hilisat, the next stage (19 miles), is described as rough and try-

ing from frequent ascents and descents. The two bridges are crossed, and then comes the ascent of a spur of the Gerrah mountain. The road, though rough in places, was as a rule good, and led through thickish oak forest with a steady ascent to an elevation of 7,850 feet, where it crossed the thalwag or water-parting—a saddle-back between the Gerrah and Arman mountains—and descended by a steep track to some cultivated ground. The forest here is of oaks 40 feet high and a yard and half in girth.

From these oak forests the descent is through a narrow gorge with precipitous sides. The road is rocky, and goes downwards, but only to again rise steeply to 6,600 feet, then again to descend to 6,400 feet, when it once more rises to 6,750 feet, then crossing the saddle of a spur from the Arman mountain, it descends into a gorge which leads down into the valley of the Hilisat stream (alt. 5,000 feet), and which they followed to where the Ilkhani or chief's camp was pitched on the left bank, at an altitude of 4,850 feet.

Major Wells says, the Hilisat stream reminded him of Cashmere, with its little terraces

of rice-fields on either side, its fine palm-trees and the forest-clad mountains rising steep from the valley.

The road from Hilisat to the Rudbar river (15 miles) is described as not being difficult, till about Rudbar river, where a precipitous bluff has to be descended, or, as with the precipice of Dopulan, to be ascended, when travelling from Shushter to Ispahan.

A steep mountain has, however, to be crossed between Hilisat and the Rudbar, another offshoot of the mighty Gerrah. It has to be crossed, and its southern slope descended to the valley of the Rudbar stream. The top of this ascent was rolling country covered with fine oaks, but the road was good and open. The Karún flowed deep down in precipitous gorges, to the left, with here and there tributaries flowing into it from the west from the Kashgai country.

The descent into the Rudbar valley is described as being fearfully rough, nothing but mules and carefully led Persian horses could accomplish it without accident ; it is, indeed, described as being as bad as the Kumarij Kotúl, on the Bushíre road, but fully twice as long.

But the friable rocks of the Kotúls could be easily cut through, whilst the precipice here is described as being of hard grey limestone. A road here would, indeed, be difficult to make, and (it is even added) for wheel traffic, impossible.

It remains to be seen whether such a road could not be made further up the Rudbar at Shalil, where there is said to be a bridge. The Rudbar, 150 yards in width and $2\frac{1}{2}$ feet deep, was easily fordable at this point, and is a rapid and picturesque stream.

Between Rudbar and Deh-i-Diz, the next station (12 miles), there is as usual an ascent and then a descent; but in this case the ascent is difficult and the descent easy.

Mr. Mackenzie, who followed the Shalil or Shaleel road, writes of it, "Shaleel to Deh-i-Diz (altitude about 5,150 feet), easy and gradual descent to a main feeder of the Karún, at about 3,250 feet, crossed by a wicker bridge across a fissure in the rocks; dangerous crossing for animals; old bridge above it in ruins, thence ascend to 5,850."

It is to be observed here, that although the rivers make their way through gorges or clefts

in the mountain chains, the transverse, or parallel valleys are often of considerable length, almost always with roads, and in one part of which a col or pass over the successive ranges is pretty sure to be met with. It is so, for example, in the valley of Amadiyah in northern Kurdistan, and I was enabled to travel from Sulaimaniya, to the lesser Zab, by a parallel valley without an impediment.

Mr. Mackenzie, we have seen, found a road from Ardall to Dizfúl *vid* Bazuft, and Colonel Mark Sever Bell, R.E., found a road from the same plain by Felat to Bebehan—a very interesting line of route.

Major Wells admits, although he says Mr. Mackenzie's description of roads is for the most part too *couleur de rose*, that evidently the route *vid* Shalil is the beaten track, and is much better than the one he took *vid* Rudbar.

CHAPTER XVI.

Deh-i-Diz—Bridge on the Karún—Got-i-Balútak—A paved Way, Rah-i-Sultani—Another bad Pass—Mal-i-Mír—Mound, Sculptures and Inscriptions—Caves with Sculptures—Sasanian Relics—Low Hills of Marls and Gypsum to Shuster—Remnants of Olden Times.

AT Deh-i-Diz there is an old fort, roughly built of unhewn stone with mortar. Around are nomad huts and a few houses of poor people. A large open upland presents itself in front of the village, dotted as usual with oaks and patches of cultivation.

A party of Seyuds were here at the time, and they expressed a desire to shoot the travellers, but they were prevented carrying out their friendly intentions by the Bakhtians.

The road to the next station, Got-i-Balútak (10½ miles) is a descent the whole way, and easy. From Deh-i-Diz they followed down a watercourse to the banks of the Karún, a dis-

tance of three farsakhs, through wooded country. The Bakhtiari guides had preceded them, and got a raft of inflated skins ready to ferry the baggage across. The river here (alt. 2,480 feet), was deep, and flowing, say, five miles an hour, and at this season (November) 40 yards in width. Its banks showed a rise of 10 or 12 feet during spring floods, when the width would be 60 yards. Down the stream are the ruins of a bridge, of which mention is made by Schindler (Notes, &c., *Proc. of R. G. S.* for 1880).

This situation of Got-i-Balutak is, Major Wells says, admirably adapted for a flying bridge, and there is nothing to prevent the working of such a bridge if a good stout boat were built for the purpose. Laden mules could then make the passage in a few minutes.

The road from Got-i-Balutak to Mal-i-Mîr (24 miles) is described as capable of improvement, but such would be costly. It rises gently from the river bank, and is at first good. Then it makes for a gorge and passes through it, following a valley between the south-east end of the Mangasht range and an outlying spur of that mountain.

The road, indeed, leaving the course of the Karún, soon descends again, and is rough for four miles to where it enters a watercourse leading down to the main river. It then ascends the watercourse, which was at that time nearly dry, though pools in it contained fish nine inches in length. The course is little better than a cleft in clay rocks, which are here almost vertical.

Some way up this gorge, a side gulch is followed to the left, and a curious old paved way, known as the Rah-i-Sultani, leads to an open plain (alt. 3,880 feet). This is apparently the only remnant of the magnificent highway supposed to have once existed. This remnant of the ancient highway was followed by a very difficult piece of road. As a descent has to be made over the face of a limestone hill rounded in form, and to all appearance smooth until reached, when the terrible rifts and rubble stones that break up its surface proved to form one of the worst bits of road our travellers had yet encountered. A way, Major Wells says, would have to be built up this face, and for wheel traffic this would cost a large sum of

money. There is, however, no avoiding this hill, or any of the gorges they had traversed on the way to it.

Once at Mal-i-Mír we are in comparatively familiar country. The altitude of the plain is 2,930 feet, and it is characterised by a tepe or mound, formed by the accumulation of ruins of ancient buildings, and therefore well worthy of archæological exploration.

On the north side of the plain is a huge block of stone, standing forty yards from the foot of the hill, and upon it is the image of an ancient Persian, life-size, but in low relief, and standing as if in the act of supplication.

In the bay formed by the broken rock, and behind it, are tiers of small figures, and in the bay another block has rows of small figures in tiers, as in Egyptian sculptures. Further up into the bay and on the left-hand side, cut in the side of the rocky hill, is a tablet with figures in bas-relief. On it appears the figure of a man, evidently offering up a sacrifice, as before him is a pile of three sheep without heads. Underneath him are smaller figures leading fresh victims. The background

of the figures is covered with cuneiform inscriptions.

These sculptures are some four miles from the tepe, and the remains of an old earthwork are met with in the interval. The relief of the figures is so low, and the rock so grey, that the figures cannot be seen unless caught in the right light and at the right distance. Yet did Major Wells discover on one of the tablets, written in pencil, the names, A. Layard, 1841, W. K. Loftus, 1852.

On the south side of the plain, is a break in the mountain, somewhat similar to that met with on the north, except that the bay ended in a cavern. Above this cavern are some tablets of sculptures in bas-relief; the one to the right has three figures in the attitude of making a petition. They have a turban of peculiar shape. (This is no doubt the Kusti, worn by the Sasanians as a turban over their bag wigs; and therefore the figures sculptured on that side of the plain would appear to belong to either the Akhaemenian period, or to the same epoch as those at Shapúr (Sasanian), and some at Persepolis.)*

* The *Antiquary* for March, 1889.

The next panel contains people in the attitude of attentive servants, and they have hats somewhat in shape resembling our English helmets. The King, or the central figure of the group, has doubtless been washed away, as his position is now occupied by a watercourse, spilling over the face of the rock in time of rain. In the entrance to another cave—not the main cave—are two figures, both much worn and defaced, and over and around one of them are cuneiform inscriptions.*

Arrived at Mal-i-Mir, we are now fairly out of the mountains, though there is still some hilly country to encounter, yet is it all of one description, viz., gypsum and marl.

* Mal-i-Mir, or Mal-Amir, "the chief's house," is identified by Sir Henry Rawlinson with the Eidij or Aidij of the Oriental geographers.

Sir Henry Rawlinson identifies Sosirate with Shushan; but Sir Austen H. Layard with Mal-Amir, manifestly the chief place in the Pass from Ispahan to Shuster. Yet is the name rarely mentioned. Pliny (*Cap.* xxvii. *Lib.* vi.) speaks of it as a town of Elymaïs "*adposita monti Casyro*," upon which Cellarius remarks (*Not. Orb. Antiq.*, p. 688), "*Sed neque subjectum oppidum aliunda note sunt, ut de situ certius constare possit.*" The first syllable should probably be Sus.

Our party left the plain at its south-east corner by a valley with tall reeds scattered about ; then sharp to the south between rocky hills. Tall grass surrounds the stately balls which are dotted here and there.

The road emerges from this valley on to a barren stony plain, in the centre of which is seen a tepe or mound, crowned by the more modern fort of Kalah-i-Túl.

From Kalah-i-Túl to Sarasia or Rudverd (13 miles) is a level road, except one difficult bit over marl hills, which could be easily made good. Leaving the ruins of Bagh-i-Malek or Manjanik to their left, and following the course of the Ab-i-Zard and crossing it, and then over the marl and gypsum hills, they had three miles by "a vile road" to Sarasia, or Rud-verd.

From Rud-verd to Goorgeer (20 miles), the way lay through low hills of marl and gypsum, with watercourses and deep pools cut out of the gypsum beds, with fish fourteen inches long, and then over rough and stony hills to Goorgeer.

Goorgeer is described as a wretched place,

and the inhabitants being Seyuds were inhospitable. Hence they crossed a sulphurous stream, where were rice fields and a village called Tembi. Beyond this village, where are rice grounds and the people not inhospitable, there was no cultivation till they reached Shuster.

Descending from the hills by a bad zigzag, they came to a broad open valley,* through which flowed a tributary to the Karún. The waters were brackish, but some just drinkable. Better water was reached at a spot named Shíkarab (sweet water), but it tasted of naphtha. We have already alluded to this peculiarity of the low country in connection with its old fire-temples.

Our party slept here in the open under a konar tree, and having the next day a thirty mile stage to Shuster, they started before daylight. All the morning they were marching down the open vale, bounded on the north by the plateau of gypsum they had crossed the day before, and on the south by a ridge of sandstone, which runs east and west, and divides this valley from the plain of Ram-Hormúz.

* Baitawand and Akfí.

There were ruins in this valley showing that it was formerly peopled. Amongst the sandstone hills were also well-built masonry retaining-walls, evidently intended either for the storage of water or to terrace the hill-side. The earth at present is level with the tops of the retaining-walls, which show skill and labour far in advance of those of the present inhabitants, who entirely neglect their country. This sandstone ridge dies out as it approaches Shuster, only to crop out in a bold bluff in proximity to the town itself.

CHAPTER XVII.

The Mountain Passes from Shuster to Búrújrd and Kúm—The Feili Lurs—A turbulent Chieftain—The Ab-i-Zal—The Upper Kerkah — The Kheolah Range—Gorge of Ab-i-Fani—Old line of Telegraphic Communication—Frequent attempts at robbery—The insecure Dalieh Pass—Khoramábád—Capital of the Feili Lurs.

WE will now compare the description here so graphically given to us (although much abbreviated) by Major Wells, of the character of the mountain passes between Ispahan and Shuster, with that given by Colonel Mark Sever Bell, V.C., A.D.C., R.E., of the route to Kúm, in *Blackwood's Magazine* for April, 1889, premising that the account given is also equally abbreviated, but the orthography is, as in the case of Major Wells, adhered to.

Crossing the river of Dizfúl, by its magnificent bridge of twenty-two arches, the road lay at first over the plain known as the Sahra-i-Lúr, or

Sahrâi Lur of Rawlinson : it then crosses low hills, beyond which the Balarud river had, at that season (April), to be passed by a ford, rendered difficult by the floods. The hills were first reached about nine miles out, and presented at the outset a varied country of rolling hills, affording good pasture to the Lur Iliyats or nomads who occupy the country, and whose camps are dotted here and there.

The first hills, with some ravines, were succeeded by the Bidruga plain, and this by what are described as intricate rocky hills, leading by a stony path to the Kela Nezza valley, occupied by the Sagwand Lurs. The hills, however, were occupied by the Feili Lurs, who were at the time in open rebellion, and even some devout Saiyids sought the protection of the party. Colonel Bell, however, justly traces this state of things to an unjust government, and it has, after the usual Oriental fashion, been since ameliorated by the destruction of Hajji Ali Khan, a descendant of Kalb Ali Khan, the noted freebooter, who put Captains Grant and Fotheringham to death for refusing to profess Mohammadanism. These Lurs were manifestly much actuated by cupidity,

for one of the ladies in Hajji Ali's camp was most pressing in her endeavours to dispose of one of her daughters for fifty tomans (the gallant colonel is not sure if it was not five), and he deduces from this strange proceeding that these tribes are rather Ali Ilahis than orthodox Muslims.*

Hajji Ali, although he made several attempts to secure a Martini-Henry cavalry carbine clandestinely, was still so far friendly as to have had a rough bridge thrown over the Ab-i-Zal for the benefit of the travellers at a point where rocks narrowed it to a width of from fifteen to twenty feet across.

The road led beyond the Ab-i-Zal between two steep and parallel ranges. At one point in the Saimarrah Valley a single arch was thrown across the Karka (Kerkah river), where it contracts from a general width of one hundred and six yards to flow through a chasm so narrow, that the writer says a bold cragsman might have leapt it. Sir Henry Rawlinson tells us this is the Pul-i-tang, or bridge of the chasm.

* The doctrines of these Sectaries are described at length in my "Personal Recollections," &c., vol. i. p. 381.

Hence they proceeded to where the Leylum stream flowed through a narrow and deep rift in the Khelrah range (Sir Henry Rawlinson has it Kárlún), which was some five hundred to one thousand feet above the road, and thence to another gorge, that of Ab-i-Fani, where the passage over the hills is practicable only by climbing the precipitous ledges to the west of it.

Upon the eighth day they halted at an elevation of over four thousand feet on the Bandamek plateau, with low oak and other trees covering the hill sides. The party had been accompanying thus far an emigrating tribe of Lurs, and a bold, but luckily unsuccessful, attempt was made at this point to secure the coveted rifles.

They next made their way through the Dalieh Pass, by which a line of telegraph, connecting Tihran with Dizfúl, passed a few years since, but the line has been destroyed, and the sarais and post-houses razed by the Lurs. (It is to be hoped, however, that with the new state of things brought about by the opening of the Karún that this line of telegraph will be restored.)*

* General Schindler said at the meeting of the Society

Another attempt at robbery was made here, whilst the crowd were pushing across a narrow bridge over the Kulsha stream, beyond the Ab-i-Sard.

—On attempting to rid himself of Hajji Ali and his thievish tribe by a forced march to Khoramábád, after passing the Nal-shískandah, or "horse-shoe-breaking pass," our traveller was headed by a dozen horsemen and disarmed. Such conduct was met by an indignant protest made in public—the Holy Mula of the party and the Sharif-ul-din were appealed to ; but notwithstanding this, a more successful attempt to secure a rifle was made the day before reaching Khoramábád, but it was afterwards returned. Such irreclaimable robbers are these Lurs, that Hajji Ali's tribe was robbed at the same time by tribes at enmity with them during the passage of the same hills, and several mules were lost. The Dalieh Pass is described as being the most dangerous of the passes.

Between Badamek and Khoramábád the hilly

of Arts held May 3rd, 1889, that the telegraph was now working half-way from Khoramábád to Dizfúl, and it would be completed by the end of the year.

country is said to present no topographical difficulties to the construction of a cart road with gentle gradients. The air of the hills is temperate and salubrious ; water is plentiful and of good quality ; the pasture lands are abundant and excellent ; and the snow never falls in sufficient quantity to block the existing animal tracks. The chief difficulty experienced in traversing the present main caravan route is the number of loose boulders strewn along it, and which it is no one's business to remove, and in the large boulders blocking it in the ravines, by climbing and descending which the track crosses over the defiles.

These obstructions, Colonel Bell goes on to say, can be readily removed, in which case a caravan of mules could pass from Dizfúl to Khoramábád in six or seven days at the outside ; and with the Karún open to Shuster, Khoramábád could then be reached from the Gulf in ten or eleven days. There to Tihrán is three hundred miles, a journey of fourteen days by caravan.

The main ranges about the valley and basin of the Ab-i-Sard are steep and barren, and in

May were still capped with snow. They rise out of undulations fairly covered with pasture and growing a few stunted oaks.

The country for thirty miles out of Khoramábád may be described as consisting of huge rolling grassy hills, separated by valleys five hundred feet deep, their slopes at times gentle, at others as steep as one in three. The height of the Delieh Pass, the highest elevation attained, at forty-eight miles from Khoramábád, is 6,000 feet, and that of the Nal-shiskandah 5,800 feet, at twenty-two miles from the same town.

There is a stiff bit to be got over before reaching the town—a narrow ravine full of boulders, then the river to be forded, followed by groves of hawthorns, poplars, and gardens full of fruit trees, and the once famous capital of the Atabegs, who flourished here during the twelfth, thirteenth, and fourteenth centuries, but now the chief town of the Feili Lurs, is entered by a solid bridge of masonry three hundred yards long.

Khoramábád, although so far west and only one hundred and fifty-six miles from Dizfúl, is described as lying on the high plateau of Mid-

Persia (the Iranian plateau—part of the elevated land which lies between the Indus and the Tigris), at the head of a gorge, and to the north of an extensive valley. The Bala Hissar, or fort, stands on the summit of a solitary steep rock, near the centre of the gorge, and close to and overlooking the right bank of the river. The town is said to contain only some two thousand inhabitants, but it is garrisoned by a Persian infantry regiment to keep order among the Lurs.

Sir Henry Rawlinson went over the same ground as Colonel Bell, but the names of mountains and passes differ much. Sir Henry Rawlinson travelled with the Persians, and he no doubt obtained his information from them. Colonel Bell travelled with the Feili Lurs, and they gave to him the names in use among themselves.

CHAPTER XVIII.

The Buluhan Range—Grassy Undulations and rounded Hills—City of Búrújird—Its Commercial importance—Country beyond Búrújird—Better roads and Line of Telegraph to Hamadan—Tang-i-Tura—Sultanábád—Agricultural and Manufacturing District—Carpets and Rugs—Lofty Uplands—The Holy City of Kúm—A City of Undertakers.

OUR travellers followed the telegraph lines from Khoramábád, and after traversing the grassy Dara Daraz valley they crossed the crest of the "Buluhan," where they found the snow lying at 6,800 feet elevation. The country here is treeless, but the grazing excellent. After passing a night beneath the Zaghe pass, their way lay over huge grassy undulations and rounded hills of gravel and clay with easy slopes, and thence descending to Chulim-Chalan, 2,000 feet lower, they reached the important city of Búrújird, picturesquely situated at the head of a fertile valley. Had there been any great

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difficulties to encounter, such would, no doubt, have been mentioned.

Búrújird is described as being a large and thriving town of some 17,000 inhabitants. It stands at an elevation of 5,400 feet above the sea-level, is surrounded by a mud wall from four to six miles in circumference, and is entered by five gates. Yet are the houses not only in bad repair, but less spacious than those of Dizfúl and Shuster. Nor does Colonel Bell speak well of the sanitary condition of the town. The place is noted for its cottons, and the climate of the elevated valley in which it is situated is cool and healthy.

The valley, watered by the Ab-i-Dizfúl, is thickly studded with villages, and the neighbouring tract is fairly well cultivated. Vines thrive, and the grapes ripen in September, whilst the wheat and barley crops are harvested in July.

From its situation, the great commercial value of Búrújird, says Colonel Bell, as a mercantile centre on the main artery of traffic between the Gulf and Central Persia, with caravan roads radiating to all the fertile agricultural and

commercial districts of Persia, is readily apparent.

"The line Muhammerah," writes Colonel Bell, "Dizfúl, Khoramábád, Búrújird, Sultanábád, Kúm, Tíhrán, may be considered to be the main commercial artery of Persia. A line of railway (better to establish good roads before thinking of railways), from Tíhrán to the Gulf should doubtless approximately follow it, for the country is more favourable to its construction on this line, than on others confined to Persian territory, and its geographical features so favour the construction of feeders to it from Hamadan, Karmanshah and Isfahan."

The country beyond Búrújird is by no means without its difficulties. There is, what is described to be a hard and firm mule track to Zaleon (22 miles), but there is no firewood, the villagers using dried dung as fuel, and the villages themselves are small and poor, yet are some of the houses described as being fairly high and spacious, and as altogether superior to those of the generality of Indian peasant villages.

The road from Zaleon is carried 14 miles

over the rich Mirza Khatir valley and through the Tang-i-Tura—the roadway through the Roswand range, where the track joins the Hamadán telegraph road ; and henceforth, the road though unformed, is generally level and good. Notwithstanding the elevations passed (8,000 feet), the ascents and descents were not found to be steep, and another stage of 24 miles took our travellers to Sultanábád, through a district dotted with several clusters of villages and with walled vineyards surrounding many of them.

Sultanábád has only a population of about 7,000 souls, more than Khoramábád, but much less than Búrújird. But it lies in the wide, populous, and well cultivated valley of the Ab-i-Kallaru, in the midst of an important agricultural and manufacturing district, where plenty of corn is grown, the vine flourishes, and the surrounding hills covered with pastures give food to flocks of sheep and goats.

The villages round give evidence of the prosperity of their inhabitants, who are largely employed in the manufacture of carpets and rugs. The population of the town is not thus indicative of the population of the district, yet is

itself cleaner and laid out with far greater regularity than most Persian towns.

A first day's journey hence leads over a lofty uncultivated upland, but with here and there villages, surrounded by cultivated fields, and fringed with poplars, to Shahawur a large village. The cold in these high lands is often excessive in winter, the thermometer falling to zero, and snow lying three feet deep. The mud huts of these villages are roofed in with domes, and the frost splitting them causes them not unfrequently to fall in.

The next day's journey of 32 miles passes through the districts known as the Mahal-i-Ferahan, and the Mahal-i-Kalateh (the former noted for its excellent carpets), and along a good road which offers no difficulties and passes through the village of Rangird to Anet-beg, an insignificant station in a valley.

Hence after a ride of 20 miles came a stony barren plain, where a few camels were grazing, the neck of the Zaleon ridge was surmounted, and the golden dome of the Imam Zada of Kúm came in sight some seven miles away.

Kúm lies 3,400 feet above the sea, and is

surrounded by a mud wall of no strength or solidity, which is entered by gates, the chief of which alone has some architectural pretensions, being ornamented by variegated blue and green glazed tiles.

As a holy city, however, Kúm ranks as the third city of Persia in the point of sanctity. Its Imam Zada contains the tomb of Fatimah, and is hence held in great veneration, and being a place of pilgrimage for the Shiyahs or Shi'ahs, the ordinary population of some 7,000 is at times much augmented.

The town lies on the left bank of the Ab-i-Khonzar, a river which is spanned by a substantial stone bridge of nine arches. Shops are numerous, trade seemed active, and provisions were plentiful. Our travellers were told that, besides the merchants, shopkeepers and artizans, all the other inhabitants were engaged in offices connected with the burial of the dead. "It is," says Colonel Bell, "in fact, a city of undertakers, who derive their livelihood from the belief in the sanctity of their necropolis, and, therefore, it goes without saying, that they are, from motives of self-interest, extreme fanatics in their religious views."

CHAPTER XIX.

Summary—Muhammrah to Dizfúl—Dizfúl to Khoramābād—Khoramābād to Kūm—Estimated cost of a Cart-track—The most available Route to Central Persia—Political Contingencies of a more northerly Route.

COLONEL BELL sums up as follows : " From my personal inspection of the route from the Persian Gulf to Kūm, it appears to me practicable to construct a cart-road from Muhammrah at the mouth of the Karún, in three sections, as follows, viz. :—

First, to Dizfúl, a distance of 173 miles, over a country which is practically an alluvial flat, where the construction of a highway only requires raising and ditching, and to finish off, which a good supply of road metal can be obtained from the hills about Ahwáz, Shuster, and Dizfúl.

(It is obvious that if the navigation of the Karún is opened, this first section will not

be wanted, and Captain Selby has shown that the river of Dizfúl is as navigable as the Karún and the Ab-i-Gargar.)

Second, from Dizfúl to Khoramábád, a distance of 157 miles. With regard to the facilities for construction of a cart-road in this section, the track may be classed as *good*, *fair*, and *bad* in equal proportions, viz., the *good*, one third of the total distance, is level, and requires nothing beyond the removal of loose boulders ; the *fair*, of an equal length, requiring only to be widened and cleared of stones ; and the *bad*, of the remaining third 50 miles, where the road should be widened and in places zigzagged to lessen the gradients. Here in the ravines and passes large boulders will have to be blasted, but otherwise there is little excavation or rock-cutting necessary ; and picks, crowbars, levers, sledge-hammers, and a little gun-cotton will do all that is wanted towards rendering the route open and safe for present traffic.

Third, from Khoramábád to Kúm, a distance of 147 miles ; the facilities for converting the present mule-road into a good road for vehicular communication can be judged by applying the

above classification, according to which I found three-fifths of the distance what might be termed *good*, one-fifth *fair*, and only one-fifth *bad* throughout this section.

Summing up : of the whole distance traversed from Muhammrah to Kúm, 535 miles in all, we can class 350 as *good*, 100 as *fair*, and 80 as *bad*. Throughout this route the only river of any width to bridge is the Karún. I calculate that the total cost of a practicable mercantile cart-track from 12 to 15 feet wide in the hills, and 30 feet on the level, should not exceed on an average above two hundred rupees (or about £20) per mile.

There can be no doubt that this route is the one which presents the greatest facilities, even if carried only as far as Búrújird, from whence roads branch to Kirmanshah and Hamadan, by Sultanábád and Kúm to Teheran, and by Gul-págan to Kashan and Ispahan, to meet the commercial demands of Central Persia from the Upper Karún.

Not only is Ispahan more easily reached by this route, but it might also be extended to Shíráz, a distance of 323 miles, the road pre-

senting little or no engineering difficulties, and with a comparatively small expenditure of capital a good carriage road could be made.

The distance from Bushire to Shíráz is only 196 miles, but the character of the country can be best judged of by the geological section attached to my work, entitled *Researches in Assyria, &c.*

The route *viâ* Búrújird is the one which would perchance meet with the greatest opposition on the part of Russia, and as it is more northerly than that by Mal-Amir, it taps the commerce of nearly all Persia ; but this ought not to be allowed to interfere with so important a duty as that of promoting the commerce of Great Britain, and enhancing friendly relations with Persia. It is not to be supposed that the opposition would be more than diplomatic, and the interests of Persia are unquestionably more with those of Great Britain and India than with Russia. Russia, in its anxiety to monopolise commercial routes, places prohibitive tariffs upon transport, which are fatal to its own success ; it also too frequently, as in Central Asia, and in the Trans-Caucasian provinces,

accompanies the extension of commerce with annexation of territory. The Persians have nothing to fear on this score from England or India, and they are aware of this ; but they are frightened at the colossal power of their northern neighbour.

They would thus gladly avail themselves of the new opening to commerce now presented to them, if it was considered within the province of our foreign diplomacy to assure to them some amount of protection, in case of strong measures being had recourse to to prevent their availing themselves of the opportunities now presented to them of following out their real interest and benefitting the whole country—opening practicable routes, extending commerce, giving impetus to industry, alike agricultural and manufacturing, and thus at once enhancing the prosperity of the empire and the welfare and happiness of the people.

The Persians are said to have already commenced to labour at the repair of the roads, but we are not precisely told in what direction. If they have selected the old Atabeg route—the route by Mal-Amîr—it must be for political

reasons, and not to give umbrage to the Russians by adopting the Búrújird or more northerly route. This would be a very short-sighted policy, and one that will lead to untold expenses and great loss of time, involving, very possibly, an incomplete work or an utter breakdown.

It must also be taken into considération that no European or Asiatic Power has opposed the advance of Russia, by roads and railroads, in Turkey and Persia, and therefore the Russian Government has neither grounds nor right to oppose the advance from the south of other European and Asiatic Powers.

CHAPTER XX.

Ancient Kingdom of Elymaïs—Route of the Macedonians, Parthians, Sasanians, and 'Atabegs—The Explorer of this Route in favour of that by Búrújird—Route from Shuster *viâ* Bebehan and Arda-khan—The Bakhtiyari Lurs—Their friendly feeling to the English—Hostility to the Persians.

WHEN considering the facilities, or we should rather say the difficulties, of the "Atábeg route," which at present monopolises attention, we have to bear in mind that the territory through which it passes constitutes the ancient kingdom of Elymaïs, with its renowned and wealthy fire-temples, and that the Macedonians and Parthians alike approached this region from the direction of Ispahan to plunder their coveted wealth.

There is every reason to believe that better roads existed in ancient times to enable armies to find their way across the mountains, as also in the time of the Sasanians and Atábegs who had

cities and temples in the same region, and it is probable that time, neglect, the action of the elements, and possibly earthquakes, have assisted in defacing these roads, and rendering them impracticable. The presence of ancient bridges alone attests the existence of such.

But even Major Wells, who views the repair of the line of traffic in the aspect of a light railway, is unquestionably in favour of the Búrújird route.

"It has been suggested," he says, "that a light railway might be run over them (that is, the difficulties in the way of the Atábeg route); but this is, in my opinion, out of the question, as the cost of the undertaking would be enormous, the valley of the Karún and its tributaries having such precipitous sides that it would often be necessary to carry the road in galleries cut in the hill-sides for miles.

"The bridging, too, would be tremendous; and if the line were carried out at right angles to the series of ridges that lie between the plateau of Chahar-mahal and Mal-i-mír, the line would be little better than an alternation of tunnels and viaducts.

"I think the railway engineer would prefer to take his line from Shuster *viâ* Bebehan to the Ardakan valley. He would find no stupendous obstacles this way, and would have wormed himself to the roof of Central Persia without crossing one of the ridges that guard it; he would tap, too, its most fertile plains and include Shíraz. The 7,200 feet Kotúl (col or pass) that lies between Ardakhan and Shíraz has no difficulties or gradients that a "Fairlie's" engine, such as is used between Poti and Tiflis, would not surmount; or, I should recommend the trial of the valley of the Shapúr river from Bushire to Nodun, where a tunnel would lead through to the river Shur or Fahlyun, which runs from Ardakhan.

"The difficulties of the Bakhtiari route," adds the same explorer, "are considered so great at Dizfúl that all caravans for Ispahan go *viâ* Búrújird, and it might be best to take them from Shuster *viâ* Dizfúl and Búrújird to Ispahan, though the distance this way must be at least 350 miles, from Shuster probably 380.

"The Bakhtiari route is, in my opinion, out of the question for wheeled traffic; but suppose

it were tried, caravanserais built, and the Karún bridged, we should have heavy work from the Mal-i-mir plain to the Karún river, for 15 miles ; from the river to Deh-i-Díz, for $10\frac{1}{2}$ miles ; and from Deh-i-Díz to Rudbar river, for 12 miles : from Rudbar to Hilisat, 15 miles ; Hilisat to Dopulan, 19 miles ; Dopulan to Ardall, 7 miles ; Ardall to Chahar-mahal plateau, 20 miles at least ; total, $98\frac{1}{2}$ miles. It would be necessary to add at least 25 per cent. to these, the bare distance from point to point, in order to allow for descent gradients, so that we have $98\cdot5 + \frac{98\cdot5}{4}$, or 103·1 miles of difficult hill-road making, and this would add 24·6 miles to the distance from Ispahan to Shuster.

“ From the Mal-i-mir plain to the Karún, the gradient is not excessive, but from the river to Deh-i-Díz the present track is too steep for wheels. From Deh-i-Díz, which has an altitude of 5,221 feet, the road rises to 6,400 feet in four miles. Descending to the Rudbar stream, in six miles, to 3,080 feet. Ascending above Hilisat to 6,900 feet, and descending to Hilisat, 4,850 feet in four miles. From Hilisat it has to rise over 7,850 feet, to descend to Dopulan,

4,950 feet. Here at Dopulan a 1,000 feet gorge has to be managed, and the road carried thence over the ravine cut plateau of Ardall, through mountains to Chokahor, and thence down into Chahar-mahal, 6,700 feet. Mackenzie crossed from Ardall *viâ* Chokahor, and made the altitude of the pass 8,350 feet. To follow the Karún would be twice as long and just as difficult."

It may be said, that the Atábeg route presents advantages over that to Búrújird, inasmuch as the Bakhtiyari Lurs are friendly, whereas the Feílí Lurs are the reverse. But the friendship of the Bakhtiyari could not be relied upon by any nation acting in concert, or in friendship with the Persians, whilst the Feílí Lurs could, if not open to conciliatory measures, be much more easily kept in subjection; the country being more open, they having fewer fastnesses, and their chief town and fortress being garrisoned by the Persians.

The Bakhtiyari Lurs, who (under the Persian Government) hold all the mountain country that lays beyond Shuster and Dizfúl, to nigh Ispahan itself, all ancient Elymaïs in fact, have long been celebrated for their warlike and pre-

datory habits, as also for their aversion to Christians, or at all events to Europeans.

But a change seems to have come over them in recent times, and the Ilkhanis or chiefs have been friendly to English travellers, as to Sir A. H. Layard, Mr. Mackenzie, Major Wells, and others (although the people were rude to Sir Henry Rawlinson ; but he was on the staff of a Persian prince) ; and hence have they found many apologists, none, more eloquent than Captain Selby. He describes them as the lineal descendants of those unconquered tribes who, often beaten, but never subdued, at last succeeded in cutting off the Roman army sent against them.

"The unfortunate Muhammad Takí Khán, one of their most powerful chiefs, and his treatment of Sir A. H. Layard, of whom he could have known nothing, coming as he did without even an attendant, and his subsequent offers to him, were of almost princely munificence."

Captain Selby relates of this chieftain, that some time ago an English adventurer who had been in Muhammad Takí Khán's service, was entrusted by him, without security of any kind,

with a vessel laden with the produce of his country, that by conveying it to Basrah, a trade might be encouraged between that city and Shuster. Unfortunately for the success of the experiment, the boat and crew were totally lost, and before another attempt could be made, the Persians who had long been jealous of this chieftain's great power, which would have enabled him at any time to throw off the Persian yoke, got possession of his person by treachery, and put him to death.

It is sad to have to state, on the authority of Colonel J. W. Bateman Champain, R.E., some years the Director-in-Chief of the Indo-European Telegraph Department—an office in which he succeeded Sir Frederic Goldsmid (*Proc. of R. G. S.* for March, 1883), that Hassan Kuli Khan, the chief who was so friendly to Mr. Mackenzie, Major Wells, and Mr. Baring, all associated with the same undertaking, which has done so much in increasing our acquaintance with not only the geography of Persia, but also that of Kurdistan, has since met with the same fate as his predecessor, and has been put to death.

No doubt these brave highland chiefs, with their warlike and turbulent followers, are a thorn in the side of Persia—ever slow to pay tribute, and ever urging the rights of would-be independent tribes or clans. The Kurds and Lurs everywhere along the line, are hostile alike to Persian and to Ottoman rule (a fact of which the Russians are well aware); but they are tributary to the one or the other power, and while it is most desirable to establish friendly relations with both Kurds and Lurs, as also with the feudatory Arab tribes, like the Cha'ab, still everything must be done under the ægis and with the sanction, and the countenance, and it is to be hoped the active support of Shah and Padishah—of the sovereign rulers over Persia and the Ottoman Empire.

PART III.

COMMERCIAL PROSPECTS.

CHAPTER XXI.

Absence of roads in Persia—Troikas from Teheran to Kasvín—Chuppar—Khanehs or Post-Houses—Commercial Exports and Imports—Minerals—Naphtha Springs—The Animal Kingdom—Fur-bearing Animals—Domestic Animals—Camels—Horses—Yabūs or Ponies.

IT seems passing strange that while we have been, and still have to, discuss the various projects for facilitating communication with Persia, that up to the present no country in the world of similar importance has been so poorly off as Persia for means of locomotion. With the exception of the Karún there is in this extensive empire not one navigable river or canal, and as regards roads the condition of Persia is but little removed from barbarism.

If, then, the commerce of that country is to be opened by the way of the only navigable river, we must be prompt in our movements,

and unquestionably the Shah must be more liberal in his concessions; for equally unquestionable is it, as Colonel Bell points out, that a point essential to the extension of the commerce and the increase in the wealth of the empire, and the amelioration of the agriculture of Khuzistán must be the extension of free navigation above the Bund-i-Nasarieh to Shuster.

When we say "prompt in our movements," it is in view of what others are doing, for, according to a paragraph in the *Standard* for April 12th, 1889, the permission has been accorded to Russia to protect *with her troops*, the new commercial road which Persia has bound herself to build from the Caspian, *vid* Resht to Teheran, an exclusively Persian soil. Any comment upon such a concession, if founded on fact, instead of as it is, utterly unworthy of belief, would be superfluous.

It is, however, quite evident that fast as we are pushing commerce and civilization by the Karún, Russia is still more busy driving her way, by *force majeure* (diplomatic and otherwise), from the north. The boundaries between diplomatic pressure, and the practical enforce-

ment of a wish or a will, has by no means a geographical significance.

"Wheeled vehicles," says Colonel Champain, "are practically unknown, excepting on the road from Kazvin to Teheran, where lately a service of troikas on the Russian system has been organised with tolerable success. Caravan routes are but tracks worn over steep and stony mountain ridges, or over gravelly plains, by the feet of mules and camels for century after century. Bridges are rare, and where most wanted are too often represented by the ruined piers and abutments of some clumsy massive construction of a bygone age.

"The traveller, mounted according to his rank or means, on horse, mule, donkey or camel, proceeds at the rate of some twenty miles a day, and is fortunate if he escapes snow-drifts in winter, mountain torrents in the spring, and sunstrokes in the summer. During the hot season, however, marches are nearly always performed in the cool hours of the night. The principal routes are provided with caravanserais at distances of some ten to twenty miles apart; and on the main post roads there are less sub-

stantial, but not unwelcome places of shelter known as Chuppar-Khanehs, or 'post-houses.' In these travellers of the better class find rooms in which to rest. No furniture is supplied, save perhaps an old and villanously dirty carpet or rug, which should be avoided by all but those who enjoy the excitement of hunting that species of game familiar to the readers of Mark Twain as the 'chamois.' "

"Persia," to quote the same writer, Colonel Champain, "is somewhat more than 600,000 miles in extent. It may be roughly described as a plateau averaging from 3,000 to 5,000 feet elevation above the level of the sea. A great proportion is salt desert; the rest consists of more or less fertile valleys lying between rugged barren ranges of mountains. The productiveness of some of the more favoured localities is in truth amazing. Wherever the soil is good, and wherever water from the melting snows on the heights above can be utilised, the glorious eastern sun can be depended upon to ripen the crops. Depressions, disturbances, and the numerous disagreeable meteorological phenomena daily noted in our newspapers, for the

instruction of those who wish to study the probabilities of our climate, are unknown; and summer in Persia is summer indeed.

“Were water more abundant the capabilities of many parts of the country would be prodigious, and the population would be infinitely larger than it is. I believe there are not more than six millions of souls in Persia, including the Iliyáts or wandering tribes, but there are no trustworthy means of estimating the number of the inhabitants. Still the trade of the country is considerable, and might be vastly increased were measures taken to open up roads where there are none, and to improve the rude apologies for roads which exist.

“Persia produces grain of all kinds, cotton, tobacco, silk, opium, fruits, dates, wool, hides, carpets, rugs, and in fact an immense variety of the necessities and luxuries of life. There is on the other hand a large demand for cloth, cotton fabrics, sugar, tea, coffee, and all the innumerable comforts called for by a moderately civilised country.”

But even these recent writers have barely

done justice to this vast region, including, as it does, a large proportion of Kurdistan.

In the first place, in regard to the mineral kingdom, the resources of the mountains have not yet been explored by competent men. There is no question as to the existence of copper, lead, argentiferous galena and iron.* The writer was engaged for some time in the search for coal, but without success, nor is it likely that in a region, mainly of tertiary or supracretaceous deposits and chalk, or chalk indurated into limestone, and tilted up chiefly by Euphotides, Diallage rocks, and Serpentine,

* By the terms of the concession granted by the Shah and his Government to Baron de Reuter to establish an "Imperial Bank of Persia"; the exclusive right is also given of working throughout the Empire the iron, copper, lead, mercury, coal, petroleum, manganese, borax, and asbestos mines which belong to the State, and which have not already been ceded to others. The gold and silver mines and mines of precious stones are to belong exclusively to the State.

The question remains if all mines, and especially petroleum mines (so called) long used or worked by the natives, and on private property, belong to the State, or, not having been conceded to others, are to be considered as alienable property.

that anything beyond lignites will be met with.* There are no true coal measures. On the other hand there are unlimited deposits of gypsum—(alabaster and plaster of Paris)—and of rock salt. Out of these issue springs loaded with naphtha, which when semi-indurated becomes petroleum, when wholly so, bitumen. Sulphur is also deposited by the naphtha springs, and exists in beds. Borax and nitrate of soda are also met with, as well as nitrate of potash. The turquoises (carbonates of lime and copper) of the Elburz mountains, and elsewhere, are in great demand throughout the East. Pearls and coral belong to the Persian Gulf, but there is no question that a careful exploration of such vast mountain chains as are presented to us at various points, and which as yet have been only hastily traversed, would result in the discovery of many valuable minerals and precious stones.

The animal kingdom presents us with many fur-bearing animals; bears, lynxes, wild-cats, and several species of mustelæ, or of the weasel tribe, of viverræ or the civet family, squirrels,

* Granites and their accompanying metamorphic rocks are said to be met with in the Zagros.

martins, and others. There are also deer, antelopes and mountain goats (búz or pazun) and sheep (argali). If we, in the north, fell upon a hut half-covered with bear-skins, so Major Wells found the roof of the Ilkhani's house at Ardall, ornamented with enormous ibex horns. But while wild boar are frequent, the wild ass (gur-khúr), the favourite game of the Persian Khans, is now rare. Jerboas swarm in the deserts.

Lions and tigers are rare ; leopards, chetahs, tiger-cats and lynxes, are more numerous. Hyænas, wolves, foxes and jackalls abound everywhere, and some foxes are met with with white or silver-gray fur. Wild dogs have been met with in Biluchistán.

The domestic animals are pretty nearly the same as those met with in other countries. There are three sorts of camels used in Persia ; those having one hump, those with two, and a third produced by the union of these varieties, and which are esteemed stronger, more docile and patient than either of the parents. These animals carry from 700 to 1,100 lbs. English, and have a wonderful faculty of enduring

fatigue, hunger, and thirst. Their selling price used to be from £10 to £15 a piece.

In few countries are more science and expense lavished upon horses than in Persia. There are various breeds, but the most esteemed are those of the Turkoman tribes, when duly mingled with Arab blood. Nor are the well-known valuable qualities of these, and the other breeds of Persian horses, confined to animals of highest extraction; on the contrary, it is not unfrequently found that the smaller or less noble ones—the Yabús, or Yaboos, as they are called, which in this country would be held as no better than ponies or gallo-ways—will often do the most work and endure the hardest labour; and the distance to which these creatures, loaded with three hundred-weight and upwards, will day after day proceed over the worst roads, clambering up steep passes, and along the beds of stony torrents, is truly surprising.

The price of the finer horses in Persia varies, of course, according to size or beauty, but principally according to breed. It may be held to range from £50 to £300, and even £400 sterling; though none of high blood can be

purchased for less than £100. The common horses of the country, among which some prove excellent, may be purchased at from £15 to £40, and such yabús as we have spoken of, if proved good workers, may be estimated at a similar value. The Persians, like the Arabs, do not adopt the cruel practice of cutting off the tails of horses. These are given to them by Providence, or developed by the necessities of the case, to protect them from their tormenting enemies—the different kinds of horse-flies—and which are of great size and peculiar ferocity in some parts of the country; but when incommoding the riders, they are knotted up in a peculiar manner.

CHAPTER XXII.

Mules—Asses—Cows and Sheep—Dogs—Game Birds—
 Aquatic Fowl—Fish—Vegetable products—Fruits
 and Wine—Kurmasīr (hot climate)—Sirhūd (cold
 climate)—Corn, Rice, and Grains—Trees and
 Shrubs—Vegetation of the Uplands—Gum Am-
 moniac—Gall Nuts—Assafoetida—Medicinal Plants
 —Flowers.

PERHAPS there is no animal more remarkable for power of endurance than the mules of Persia. They seldom attain a large size, but their strength is prodigious. The loads they usually carry are about three hundredweight, with which they travel day after day along the execrable roads, and over the rough kotúls or passes of the country, at the rate of from twenty-five to thirty miles a day, according to the distances of the resting places. The price of good baggage mules varies from twenty pounds to thirty pounds in English money.

The ass of Persia is, generally speaking, as

poor and miserable a drudge as it is in most other countries, but some are of a very superior size and description. The best are of Arabian descent, and fetch high prices—one of particularly fine temper and easy paces will bring as much as forty pounds sterling. They are generally preferred by the priesthood, and the higher orders of that body may be seen pacing soberly along, the people on either side, and receiving in turn the most profound obeisances.

The cows and sheep of Persia require no particular notice. The breeds of the first are neither distinguished for size nor beauty ; those to the eastward exhibit more or less of the Indian hump, as they have been more or less crossed with the animals of that country. The sheep are principally of the fat-tailed sort, and it is remarkable that, although they constitute a chief source of the wealth and property of a very large class of the inhabitants, no attention whatever is paid to their improvement. Their flesh is, however, generally excellent, and forms the chief part of the animal food used in the country.

The dog in Persia, notwithstanding some Oriental restrictions, becomes, as elsewhere, the

companion and assistant of man. Surrounded by tribes of thieves, and wild predatory animals, it would be impossible for a camp or village to preserve its property for a single night without these vigilant guards, and, accordingly, most tribes and hamlets provide themselves with a breed of large ones, which are so fierce and watchful (as we have experienced to our personal discomfort) that none can approach the precincts guarded by them, not only without causing alarm, which would be nothing, but without being fiercely assailed by them, especially at night time.

There are plenty of game birds in the country. Among the chief are great and little bustards. They are called *ahūbarras* by the Persians. Pheasants, called *kara-gul*, are only met with in *Mazundīrān* and *Astrábád*. It is probable that the francolin, so abundant on the Tigris river, is to be met with, as it is on the *Karún*, but it did not come under the cognizance of the writer in other parts of the country. As to water fowl, they are to be met with, as in other parts of the world, where there are places suited for their habits. Storks and ibises nest on trees,

houses, and huts, and even the flamingo roosts on the tall cypresses of Khoramábád.

It is surprising how little is known of the fish of Persia. The rivers which flow into the Caspian have been found by the Russians to abound in sturgeon and sterlet, which they cure for their own markets. As far as my own experience goes, the rivers in Northern Kurdistan abound in trout, and we have seen that Major Wells makes frequent allusion to the fish of the rivers and streams of Southern Kurdistan, but he does not mention the species. The sacred fish of Luristan are barbels, and even the subterranean streams are said to swarm with a species of leather-mouthed and bearded fish which grow to a considerable size. No doubt the lakes and rivers, what few there are, in Persia abound in fish, something like those of the lakes and rivers in Mesopotamia and Syria; but as these are comparatively rare in Persia, they do not constitute so prominent an article of food as in other countries, and hence, as well as for the want of competent travellers in the country, little or nothing is known of them.

The vegetable products of Persia are luxuriant.

The orchards are rich with all the fruits of Europe, as well as those of the East. As to the fruits of Europe, most of them are to be found growing in the forest in their wild state, mingled with impervious thickets of pomegranate, plum, buckthorn, raspberry, bramble, and other stubborn bushes, and these interlaced with various creeping plants, most of which in spring are covered with a sheet of the loveliest blossom.

Wild vines hang in graceful festoons from bough to bough, mantling the forest trees, but the fruit of trees growing in their natural state is not comparable to that which is cultivated; in fact, in the case of pears, apples, and plums, they are not eatable. But their presence as native growths attests the perfection they might obtain by cultivation, and Persia could be made to produce some of the finest wines of the world. Indeed, as it is, we fancied the best class of Shiraz wine preferable to any sherry we have ever tasted, and we believe that others have been of the same opinion. So also hops are met with abundantly, wild, and as there is barley—there is nothing wanting but the art to brew good beer.

The Empire of Persia is divided into two different, rather than distinct, climates—the *kurmasīr* and *sīrhūd*, or warm and (comparatively) cold regions, and the productions of these necessarily differ from each other. In the warm districts all the grains of India are met with, as *bajeree* or *bajīrī*, *joar* or *jūwar* (*Holchus sorghum*), *moongee* or *mūngī* (*Phaseolus mango*), *tel* or *tal* (*Sesamum*), *maize* (*dāl*), *vetches*, *cord-mutter* or *kurd-mutta*, a sort of pea, *chunna* (*Cicer aristinum*), and with rice, wheat, and barley, form the staple crops. Cotton, indigo, sugar, and madder, and the castor-oil plant are also cultivated with perfect success.*

In addition to the *chinar* or *Platanus orientalis*, the walnut, and other trees of higher latitudes, the *uphoor* or *uphūr*, a variety of *Ziziphus jujuba*, the *peepul* or *pīpūl* (*Ficus religiosa*), the *neem* or *nīm* (*Melīa azaderachha*), the *seesoo* or *sīsū* (*Dalbergia seeso*), the *mango*, the *guava*, the *orange*, the *lemon*, the *babool* or *babūl* (*Mimosa*

* The indigo which is manufactured in Khuzistān is raised chiefly in the plain between Dizfūl and the Kerkah river. One of the ancient names of Dizfūl was *Anda-l-Mishk*—"abundance of musk."

arabica), and more than one species of tamarisk, are found embellishing favoured spots, where moisture encourages vegetation. The water courses are in Mekrān filled with underwood of oleander, tamarisk, mimosa, and other thorny shrubs.

Among the most valuable productions of this scorching climate is the date tree, which here, as in Arabia and Egypt, seems to require the full influence of a burning sun to ripen its delicious fruit.*

According to Pottinger, the bazaars of Kelat in Bīluchīstan exhibit as various a display of fruits and vegetables as can, perhaps, be found in any quarter of the world. Apricots, peaches, nectarines, plums, apples, pears, quinces, and grapes of various and delicious kinds; figs, pomegranates, mulberries, guavas, plantains, melons, currants, cherries, almonds, walnuts, and pistachio nuts, are sold in profusion for a trifle; and

* Mr. George Mackenzie tells us that when he first went to the Shat-el-Arab, nearly twenty years ago, Mr. Lynch's first vessel brought home about 300 tons of dates, and he found that, in 1887, 20,000 tons of dates were exported from Basrah to Europe alone.—*Journ. of Soc. of Arts*, May 10, 1889.

the ordinary vegetables, as turnips, carrots, cabbages, lettuces, cauliflowers, peas and beans, radishes, celery, onions, garlick, parsley, cucumbers, and others yield not in excellence to those in Europe ; and, more peculiar to the East, the egg fruit or baydanjan (*Solanum melongena*) and the banuyah (*Hibiscus esculentus*) are not wanting.

We lose sight of many of the trees, plants, and fruits of the hotter parts of Persia in the uplands, which really constitute, however, the productive and populated portion of the country.

Among the trees that there attract our notice are the stately chinar, the dark, aspiring cypress, the picturesque pinaster, the tall Lombardy poplar, and the willow. The plains are covered with a stunted and prickly growth, including the camel-thorn (*Hedysarum alhage*), the wild liquorice, the binak or spice plant, the soapwort, rest-harrow, wild rue, and many others. Among them the stalk of the gum-ammoniac rears itself upon most of the gravelly plains, dropping its bitter tears upon the waste.

Though the orchards of Persia are rich in all the fruits of Europe, the timber trees of the great

central tracts are chiefly limited to the Oriental plane, the Lombardy poplar (sifdar), a bushy species of elm, the common and the sweet-scented willow, known as sinjid, and a few pinasters ; walnut trees grow everywhere to a magnificent size. The hills and mountains are generally covered with several species of oak, as also elms, sycamores, beeches, ash, walnut, and box-wood.

We are not aware if the Valonia and other gall-nut producing oaks are met with in Southern Kurdistan, but in the central and northern parts, although the commerce is carried on in the usual humble style of mule caravans, this is one of considerable importance.

Parts of the mountain districts are void of trees, and then they are mostly dotted with ilex or dwarf oak ; while konar or cornel-bush (the corrundah of India), with the wild or bitter almond, are scattered over their rocky sides and on the little plains that lie embosomed among them.

Cotton, tobacco, hashish, the opium-poppy (*Papaver macrostomum*), cultivated for its opium, vines, figs, and the mulberry, it is almost needless to say, are to be found all over the country ;

without these Persia would lose half of its internal commerce, and these, with silks, which could not be obtained without the mulberry caterpillar, constitute with its woollen, cotton, and camel-hair fabrics, carpets, rugs, tent coverings, cloaks or mantles, etc., its chief exports. The *Pálma Christi* is chiefly confined to the warmer provinces, but two species of tamarisk, one of which yields the *gīzun-gavin* or manna, are met with in most moist and low spots.

Among the most valuable and remarkable productions of the eastern parts of the country is the *assafoetida* plant. Its stem is from one to two-and-a-half feet in height; the leaves resemble those of the Indian beetroot, and when ripe it produces a cauliflower-like head of a light straw colour. The milky juice extracted near the root congeals into the well-known gum, of which each plant is said to yield as much as a pound; but the plants themselves, especially when young, are prized as a high delicacy by the natives, who stew or roast the stem, and boil or fry the head and leaves in ghee or *ghí*: clarified butter. It would require a long apprenticeship in garlick before the European could enjoy such

a dainty, for dressed in this way its smell is even stronger and more rank than when in the form of a gum, and none but those accustomed to it can endure its offensive effluvia. We have, indeed, been overpowered almost to sickness when a cargo of assafoetida has been loading on the quay at Bushire.

A vast multitude of medicinal plants are met with in a country so favoured as Persia. Rhubarb grows in prodigious abundance and great luxuriance just below the snow line in Kurdistan, but it is questionable if growing in such a moist soil its roots would possess much medicinal virtue. Scammony, colocynth, and a multitude of other drug-yielding plants are also met with.

It is to be noted that the cardoon grows wild, almost large enough to be used for culinary purposes, and the tender shoots of scorzonera and salsify sprout out on the plains in spring, but are little used by the natives. They are too delicate for their depraved tastes.

Among the flowers of Persia the rose takes the first place, not only for its scent and beauty, but for the part it plays in Persian poetry, and

for its commercial value in the shape of attar or compressed oil.

Beds of tulips, anemones, ranunculuses, lilies, jonquils, narcissus, hyacinths, lilies of the valley, pinks, gilliflowers, sunflowers, marigolds, jasmine, and violets, embellish alike the gardens and the fields ; and even the sands and gravel of which the greater part of the extensive plains consist, are tinged in spring with lovely hues by the blossoms, chiefly of bulbous-rooted plants, that start in perfect sheets, without leaf or stem, from the seemingly impenetrable soil. Susa itself, as before observed, derives its name from the lilies of the plain.

CHAPTER XXIII.

Colonel Champain's arguments in favour of the Navigation of the Karún River—Mr. Mackenzie's Experiences—Munificent offer of support on the part of a Chief of the Bakhtiyaris—How to meet and encounter opposition on the part of the Persian Government—Navigation of the Tigris River—Navigation of the Persian Gulf.

"It should be noted," says Colonel Champain, "that until recently the main trade route of the north of Persia lay from the shores of the Black Sea, through Turkey, a line open, of course, to British as well as to Russian merchandise. The rapidly increasing railway system of the Caucasus will soon absolutely close this route for practical purposes and leave the trade solely in the hands of Russia, who, by means of differential tariffs, will be in a position to exclude British goods altogether.

"From a purely Persian point of view, therefore, it is most desirable that steps should be

taken to counteract the tendency of the existing system to place the country, in a commercial sense, at the mercy of her formidable neighbour. Free navigation of the Karún would open Persia to British enterprise, and would emancipate commerce in the north as well as in the south, from dependence on the forbearance of the Russian Custom House."

The same writer says, in reference to the many projected railways, "That while every effort should, in my humble opinion, be made to assist in the construction of railways in Turkish Arabia, I am not very sanguine as to the success of such schemes in Persia. I shall not believe in the much talked-of line from Resht to Teheran until it is open for traffic, though I must admit that in this case Russian pressure may achieve marvels, and there is no doubt that the country between Casvin and the capital is well suited for such an undertaking. But while millions must be expended there, a few thousands would, I believe, work wonders if laid out on the simple little Karún river proposal."

Mr. Mackenzie, we have before observed, pro-

nounces in favour of the Bazúft route over that by Mal-i-Mir, chiefly on account of the river having to be crossed on a raft, the animals swimming alongside, and that although 266 miles against 259 by Ardall and Mal-i-Mir. It is obvious, however, unless otherwise presenting fewer difficulties, that the erecting of a bridge would obviate this particular objection. Owing to this objection, however, the Bazúft road is said to be the one most frequented by caravans.

The same writer also makes particular mention of the almost unexampled munificence of the unfortunate Hussain Ali Khan, Chief of the Bakhtiyaris, who actually offered to give, then and there, the estimated amount of a third share in the cost of the requisite steamers on the Karún, and to furnish 100 mules, or as many as might be required, for the land transport between Shuster and Ispahan.

The general result of Mr. Mackenzie's journeys showed that there are no physical or political difficulties in opening up a trade route between Muhammrah and the heart of Persia, and that the establishment of such a route

*Ruli**after a long
journey
the
route
is
not
very
safe
at
present*

would meet with the hearty support and co-operation of all the local authorities.

The only real obstacle (now in part, and, it is to be hoped soon, wholly to be surmounted by the personal interest manifested by the Shah in opening the new route) was the obstinacy of the Government in Teheran, whose opposition is doubtless due to their obsequency to Russia. A concession, with a guarantee of 6 per cent., was, it was said, about to be granted for a costly railway to Enzeli, from which Russia alone, and not even Persia, will reap any benefit.*

“A railway from Tiflis to Teheran is also said to be under discussion. Unless, therefore, some corresponding amelioration of the southern routes is forced upon the Persian Government, Persia must eventually cease to be a field for English commerce, and become a close preserve for that of Russia.

“In the north Russia has already many advantages in her favour, of which she is not slow to avail herself; but on the other hand *England ought to predominate in the South.* With weekly mail steamers from the Persian

* *Proc. of the Roy. Geo. Soc.* for March, 1883.

Gulf to India and fortnightly ones to London, every facility is given for the development of English trade and influence which subsidies can provide.

“But something more is wanting, even if only to retain what has been acquired. The telegraph was successfully established in spite of the jealousy and opposition of the Persian authorities. Somewhat similar action might perhaps be advantageously applied to the Karún, for which neither public expenditure nor money guarantees, nor, in fact, anything beyond simple permission is wanted.

“Once fairly started opposition would cease, and the opening-up of the country to unrestricted English enterprise would soon come—like the telegraph—to be generally recognized as a national benefit.” (Such words, although in part superseded by the action of the Shah, backed as they are by General Sir Frederic Goldsmid, a former Director-in-Chief of the Indo-European Telegraph, a traveller of wide experience and well attested competency of observation and judgment, and one so intimately acquainted with the country in question, cannot

be too seriously pondered upon. All has not been done yet—only the thin end of the wedge has been inserted in the southern opening to commerce, and the day may yet come when it will be necessary to remember, that with Oriental potentates and governments it is necessary sometimes to persevere (*suaviter in modo, fortiter in rē*) even against temporary opposition, if ultimate success is to be ensured.)

A light railway, Mr. Mackenzie suggests, from Shuster to Ispahan, might then become a feasible and paying undertaking, and the table-land once reached, extensions and branches in every direction might be cheaply and easily constructed. Such a railway (or, as we should prefer, a good cart-road at first) would secure, to a great extent, the commercial and political interests of England, while, at the same time, it would be the only practicable one of any real value to Persia itself.

It would appear, however, from accumulated evidence, that the same arguments would apply with still greater force to the route *viâ* Būrūjird. Mr. Mackenzie himself makes a reservation regarding trade to Kirmanshah.

"The route from Baghdad," he remarked, "to Kirmanshah he would leave to be dealt with by those who are better acquainted with it. He would give a few facts respecting the river service on the Tigris, between Bussorah and Baghdad. In reply to Colonel Champain's objection to the dues levied at the Turkish Custom House on goods destined for Persia, he might mention that the duty being only 1 per cent. for goods 'in transit,' is more than compensated by the increased water carriage, enabling goods to be placed at points beyond Kirmanshah, which could not be reached on equal terms if landed, say at Shuster. So that even if the Karún be opened to navigation, it in no way detracts from the importance of the Tigris to this country as a water-way.

"What is required there is that we should be allowed to run such a number of steamers under the English flag as our extended ocean traffic demands. In 1862 the Turkish Government granted a firman to an English firm at Baghdad to place two steamers on the river, and they are still restricted to that number.

"Notwithstanding the enormous development

of trade since the opening of the Suez Canal in 1870, the means of carriage on the river Tigris is worse now than it was fifteen years ago. Midhat Pasha, when Governor of Baghdad, placed several Turkish steamers on the river, and altogether there was a wonderful impetus given to affairs while he ruled the Pashalik. After Midhat's removal, no money of course was expended on the steamers, they one by one dropped off, and the entire must shortly fall on the two English steamers, if it has not done so already." (This, it is anticipated, may also ultimately be the case with the *Susa* on the Karún.)

"In 1870, before the opening of the Canal, the entire trade of the Gulf was (excepting natives dhows) carried on by a monthly steamer from Bombay, and three, or at most four, sailing ships a year from England. Now there are, in addition to a weekly mail steamer from Bombay, three native-owned steamers running on the same line, and two lines of monthly direct steamers from London. A French line has lately been started. Notwithstanding this increase, no step has been taken to improve the inland navigation or transport.

Competition of North and South. 213

"In 1870 the freight on iron bars from London to Bushire was 69s. 6d. per ton, and in 1883 it is 30s. The freight from London to Poti or Trebizond is much the same, so that the competition between north and south comes to be one simply of cheap country carriage. In the present financial condition of the country, he thought it was premature to talk of railways, but free navigation of rivers, roads, and tramways, where practicable, would in a short time work marvels. Once the Persian Government saw the advantages, he had no doubt they would, as in the case of the telegraph, feel themselves the necessity of progress."

CHAPTER XXIV.

Colonel Stewart on Russian Enterprise as contrasted with British Lethargy—Natural and Political Spheres of Enterprise—Lord Aberdare on the "Passive Resistance" of the Persians—Sir R. Murdoch Smith at the Chamber of Commerce—Prohibitive tariffs of Russia—Systematic Navigation of the Karún—Pack Road for Mules to Būrūjird—Restoration of the Telegraph Line.

COLONEL C. E. STEWART also admits that Russian goods are undoubtedly beating English goods altogether out of the market in Northern Persia ; but he considers that that is due to the enterprise of the Russians, and the want of enterprise shown by Englishmen. "The physical difficulties," he says, "the Russians had to overcome were quite as great as those which Englishmen would have to surmount, but they had used very strong influence with the Persian Government, and had spent a great deal of money in making railways."

Colonel Stewart also spoke favourably of the

great improvements effected by Russia in Central Asia. He thought the English should not grudge Russia her possessions in Central Asia. We do not believe that enlightened geographers and politicians do so. Central Asia cannot be allowed to remain a barbarous desert, merely because some deem it to be disagreeable to have the Russians near India. No sensible person opposes the civilisation and the opening to commerce of Central Asia by Russia : but in the interests of British and Indian commerce, it is not desirable that the power of Russia should be paramount beyond the mountain boundary fixed by nature in Persia or in Afghanistan.

Colonel Stewart, however, admits that while Russian goods could not as yet compete with English goods at Herat ; "if the Trans-Caspian railway was continued as far as the Persian borders, he thought that even in Herat the English would be beaten out of the market, unless they took some steps to improve their communication with Southern Persia, and no line of communication was more important than that of the Karún river."

"The Russian monarchs," Colonel Stewart also observed, "were pushing forward their trade, but he did not think that Englishmen ought to fear any rivalry. If they only made an effort, and were assisted by their Government, as the Russians have been, they would be able to undersell the Russians."

The President of the Royal Geographical Society, Lord Aberdare, remarked that they must all wish that the magnificent scheme so vigorously sketched out by Sir Frederic Goldsmid should be carried into execution (that is, the project of a railway from Constantinople to India *via* Erzerúm, Tabríz, Teheran, Herat and the Bolan Pass, to which all subsidiary projects must give way); but although Russia had made railways through her own territories or dependencies, while England might be called upon to make them through foreign countries, it was new to him to hear that English capital had not been employed very largely in making railways in countries that were not dependencies.

"But in waiting for the execution of the larger scheme, he thought that it had been clearly demonstrated that it was possible, at a very

small cost, to get a route into the heart of that part of Persia where alone Englishmen could hope successfully to compete with Russians. . . . What was wanted by England was not the material aid of Persia, but the withdrawal of that passive resistance which, in common with most Eastern rulers, she manifested on almost every occasion. It was clear that if she would offer no obstacles, the route up the Karún would very soon be made practicable ; and he could not but think that if it were steadily pressed upon the Persian Government, the desired result would be obtained."

Major-General Sir R. Murdoch Smith in his address to the Chamber of Commerce* upon the Karún River and British trade with India, after alluding to the physical and economic conditions of the country ; pointed out that more than three-fourths of the whole area of Persia is an elevated plateau, whose plains are at an average height of 4,000 to 5,000 feet ; that the climate is extremely dry, and that the whole transport of the country is done by beasts of

* *The Chamber of Commerce Journal* for March 5, 1889.

burden, adding that Persia really now communicates with the outer world only by the routes leading to the Caspian and Black Seas on the north, and those leading to the Persian Gulf on the south.

“On those which abut on the Caspian, at all events at their northern extremities, Russia has a monopoly of the foreign trade, there being no means of egress from the Caspian other than through Russia.

“To the Black Sea, the old caravan route from Teheran, *via* Tabreez, Erzeroum, and Trebizond, is still made use of to a considerable extent ; but it cannot long be expected to compete successfully with the parallel route through the Caucasus, now that there is railway communication the whole way from Batoum on the Black Sea to Bakou on the Caspian.

“The railway, however, is useless for all merchandise but Russian, inasmuch as the free passage of goods in transit formerly conceded has been withdrawn, and the normal prohibitive customs tariff of the rest of Russia imposed instead.

“This is the circumstance to which I referred,

when I stated that the choice of routes to Persia which formerly existed had latterly been considerably restricted.

“When the railway was completed some six years ago, Russia had the option between fostering the transit of foreign goods by liberal customs regulations, and thereby benefitting the railway and the Caucasus (or the Trans-Caucasian provinces) generally, and a policy of rigid protection in favour of her own manufactures. She chose the latter course.

“The result has been a great increase of Russian imports into the Persian provinces near the Caspian, to the diminution, and in some places the exclusion, of other European goods. This effect is, of course, most strongly marked in the provinces of Ghilan, Mazanderan and Asterabad, which lie along the shore of the Caspian, and in Khorasan, farther to the eastward, where its great distance from the Black Sea and the Persian Gulf, compared with its proximity to the Caspian and the new Trans-Caspian railway, makes competition with Russia impossible. These provinces, therefore,

are altogether beyond the scope of the present discussion."

(It might, with all due deference to the able writer, be intercalated here that a future still lies for British commerce, even with those northerly provinces, if routes of commerce were opened to Kírmanshah and Hamadan, by which a fair and peaceful rivalry might be established in the bazaars of Teheran, Tabríz and other northern and north-eastern towns and provinces.)

Even at the present moment, we are further told: "In Teheran, the effect has not been so great, and English manufactures are still seen in the bazaars side by side with those of Russia. At Tabreez, which is sometimes called the commercial capital of Persia, English manufacturers still largely predominate, notwithstanding its situation within a hundred miles of the Russian frontier.

"The reason, however, is simply this. Although so near the frontier, it is almost as far from the railway at Tíflis, as it is from Trebizond. At all events, the difference in distance has hitherto not proved sufficient to

counteract the greater cheapness and better quality of English, as compared with Russian manufactures.

"It must, however, be remembered that the means of communication with the Black Sea *via* the Caucasus, are gradually increasing ; while those *via* Erzeroum, on which British trade with Tabreez entirely depends, are at a standstill, if not, possibly, retrograding.

"We may sum up these conditions by stating that throughout a large portion of Northern Persia, British trade is practically altogether out of the market, while in another portion it still holds its own, but by a somewhat uncertain tenure."

Sir Murdoch Smith is of opinion that steps should at once be taken to utilise the navigation of the Karún river as far as it goes, and to supplement it by steam launches or native boats above the rapids. To do this to any purpose, however, he deems it essential that the service should be regular and at fixed intervals. (This be it observed pending the construction of a canal past the rapids as suggested by Major Wells.) "Mere occasional trips of a steamer in

search of cargo will not suffice to attract traffic. The boats between Mohammrah and Ahwáz, and the launches or boats between Ahwáz and Shuster, should ply regularly in correspondence with the weekly mail steamers running between Bombay and Bussorah, just as the Tigris river steamers have done for years between Bussorah and Baghdad.

“The mail steamers could easily call at Mohammrah as they pass up and down the Shat-al-Arab on their way to and from Bussorah. For such regular service the Karún steamer would be fairly entitled to a substantial postal subvention, either by the Imperial or the Indian Government, proportionate to that now given to the mail steamers in the Persian Gulf and on the Tigris.

“Another step in the same direction would be the making of a thoroughly good pack road for mules, from Shuster to Búrújird (this is unquestionably, as before shown, the best line); and the resuscitation of the Chapar or horse-post along the road from Shuster and Dizfúl to Búrújird, Sultanábád and Koom, where it would join the present road from Teheran.

“And lastly, the telegraph line erected some

years ago from Hamadan to Dizfúl and Moham-mrah, should be restored.* With regular postal and telegraphic communication thus established along the Karún, and thence to all parts of Persia, and with well selected mercantile agents at the chief commercial centres, trade would certainly follow—a trade capable of great development immediately the Ahwáz obstacle was turned or surmounted.

“The prospects therefore are, I think, amply sufficient to warrant the steps which I have ventured to suggest. They are not of an heroic character like railways, to which, however, they may possibly pave the way, and they are neither difficult, dangerous, nor expensive.

“If they commend themselves to those who are in a position to carry them into effect, they should be taken without undue delay. If no action is taken by us, it does not follow that others will be equally backward. The Persians themselves quote an aphorism attributed to Ali, which is peculiarly applicable to the subject of this discussion: ‘Three things never return—the spent arrow, the spoken word, and the lost opportunity.’”

* This, we have seen, is in progress.

CHAPTER XXV.

Colonel Mark Sever Bell, V.C.—Railways will succeed to Cart-roads—Extension of Free Navigation—Irrigation of the Country—Co-operation of wealthy Persians—Radiating Roads—Vast importance of the Undertaking—Political aspects of the Question—Not solely Anglo-Russian, but concerning other Nations—Responsibilities of a British and Anglo-Indian Empire.

COLONEL MARK SEVER BELL, the last who has written upon the subject with all the authority of *connaissance de cause*, remarks very justly that, "the construction of a railway must necessarily follow in the wake of a cart-road, which is a primary consideration.

"It has not been overlooked that our colonists, notably in Canada and Australia, have been wont to push their pioneer railways almost in advance of their roads; but they own enterprising capitalists, and can attract money by the security of a settled Government

and safety for the construction of the lines; whereas in Persia, besides the engineering difficulties, there are neither carts nor cart-horses or bullocks suited for heavy draught, few artisans, no increasing or enterprising population.

"The Government has hitherto been an Oriental despotism of the well-known type, and the Asiatic system of proceeding in financial and administrative matters in full force, and we know what that means—obstruction, mendacity, fraud and bribery, with every species of corruption. Happily, the influence for good of the European diplomatic circles at Tihrán has of late years been considerable.

"Concessions were continuously being made by the Government of the Shah to construct railways and re-open canals, &c., but they were as often rescinded (as in the case of the first concession of the free navigation of the Karún, afterwards limited to as far as Ahwáz).

"There are other important conditions which seem to indicate that the Shah is frightened at the momentous step that he has taken for his people's good; but at all events, the first step

has been taken towards ensuring the re-opening of this old route to the world's commerce.

“The next step to be urged towards the extension of the commerce, and the increase of the wealth of the empire, and the amelioration of the agriculture of Khuzistan, must be the extension of free navigation above the dyke to Shustar. Then, to follow up the development of traffic, it will be imperative to require from the Persian Government security for the caravans through the hills, *vid* Khoramábád, and the improvement of the road above mentioned from Kúm. Even as it exists, it is the best and shortest route from the Gulf to Tíhrán.

“The re-opening of the Ahwáz irrigation channels for the fertilisation of the plains of Arabistan, once famed for their sugar-plantations, and finally the construction of a line of railway from Shustar, and eventually from Muhammerah to Tíhrán are public works, which will follow in due course of time.

“To ensure the success of these enterprises, which, as I have indicated, should flow in the wake of the opening up of the Karún river to navigation, if Great Britain and other European

nations are to derive full benefit from them ; it is essential that the local Persian nobility, gentry and merchants, be called upon to take a leading part both in initiating and bringing them to perfection. Such men exist, not only in all the large towns of south-west Persia—i.e., Shustar, Dizfúl, Khoramábád, Hamadán, Isfahan, Shiráz, and Bushire—but also among the nomad Lurs of the Zagros, and of mid-Persia." (We have seen this exemplified in a remarkable manner in the munificent offers of a late chief of the Lur Bakhtiyaris.)

"Many native capitalists from Tihrán, Tabriz, and other large towns of Persia would greedily embark in such extended projects, if the Persian Government foster it without guile—indeed, a royal prince might place himself at the head of the directorate at once. Hitherto a sad fate has overtaken the few Persians who have interested themselves in the development of south-west Persia.

"As soon as such a line as I propose is in working order, either as a mule track, cart, or rail road, other radiating roads from Isfahán, Yazd, and Hamadan will not be long wanting ;

and there, as is well known, are the most fertile parts of Persia, exporting grain, wool and luxuries like opium, tobacco, cotton, wine, fruits, &c. *The importance of such a line to British commercial enterprise is incalculable.*

“With the political effect of the promulgation of the late Anglo-Persian treaty I do not propose to deal. Our one and sole aim is to enable Persia to take that position amongst the Eastern Powers that her history, her industries, her tractable and skilful population, the fertility of her soil, and the variety of her agricultural and industrial products, entitle her to assume.

“Our object is her salvation, to be gained only by taking the bold course of opening up her country unreservedly to European enterprise. I here write as an imperial citizen, jealous of imperial interests, and in the maintenance of our commercial supremacy in the East.”

The splenetic declarations in the Russian press perhaps only indicate the official vexation felt at a diplomatic triumph at Tihrán over Prince Dolgorouky; for the opening of the Karún certainly exhibits to Persia the independent market which she possesses on the Gulf, and the advan-

tages that must result to her by an increase of our competition with Russia in all Persian markets.

“ It is to be observed in connection with the political aspect of the question, that the Persian Government may argue that if they open the commerce of the country to the British and other nations from the South, whilst the Russians are straining every nerve to monopolise commerce from the North, they have some claims to demand that in case the latter interests were to be enforced, we should be prepared to give them practical assistance from the South.

But, in the first place, the energetic measures adopted by Russia to push her commerce in the North have never been objected to, and the Muscovites have no right to oppose other nations adopting similar measures in the South.

But, above all, it is no longer a merely Anglo-Russian question ; the opening of the Karún has been effected for the benefit, not only of Persia, but of all European nations alike. The French have already a commercial company on the Gulf, and Germany, as well as France, Italy,

Greece, Turkey, and other nations have all alike the same interest in the commerce of a great empire like Persia not being monopolised by one power.

It is obvious then, that any diplomatic assurances of support, in case (a thing that is in reality in no way to be anticipated) of the Russians enforcing commercial monopoly at the point of the sword, that such a proceeding involves the interests of all the European Powers, as well as those of Great Britain and India. Such claims on the part of Russia would indeed be utterly preposterous.

“The mail steamers (to return to Colonel Bell’s summary), in the Gulf and up the Tigris are favoured with a postal subvention ; and the enterprise of running English steam-vessels on the Karún route will, it may be assumed, certainly be encouraged by a substantial subsidy from either the Indian or Imperial Government, as some small return for the potential greatness of commercial results and others that must follow it. (This, we have before seen, is also upheld by Sir R. Murdoch Smith in his address to the London Chamber of Commerce.)

“Great Britain can honestly, and without an ulterior thought, assist Persia, one of our Imperial neighbours, whose fortunes are bound up with ours by the links of geographical position and its enforced common interests—links that none can unrivet, and which compel a brotherhood of nations otherwise widely separated.

“Persia stands in need of population and means of locomotion—wants that our Empire can supply by her Indian subjects, and her moneyed merchants and manufacturers at home, who owe their wealth to the proud position we hold of chief carrier and supplier to the East—a position which is not an unassailable one, but rather one that will require of us, if we hope to retain it, both boldness of enterprise and sacrifices commensurate with the vast interests at stake.

“Let us hope that ere long these plains and hills of Arabistan, Khuzistan, and Luristan will no more present the same unhappy conditions as when I passed through them ; for the wand of commerce has already pointed in that direction, and, like Ithuriel’s spear, is effecting a transformation of the scene ; so that within a

few years of contact with Western civilisation, we may behold the nomads replaced by settled agriculturists, anarchy supplanted by law and order, whilst poverty gives way to wealth, and superstition to true faith."

"And I will multiply the fruit of the tree, and the increase of the field. . . And the desolate land shall be tilled, whereas it lay desolate in the sight of all that passed by. And they shall say, This land that was desolate is become like the garden of Eden; and the waste and desolate and ruined cities are become fenced and are inhabited."

INDEX AND SYNONYMES.

A.

- Abádián (Messene), 123.
Ab-i-Balarúd, 8.
Ab-i-Bors (1st tributary to the Karún), 21.
Ab-i-Diz (Koprates), 11.
Ab-i-Gargar (Du Dangah) (2 parts of Karún), 39.
Ab-i-Garín, 21.
Ab-i-Khonsar, 166.
Ab-i-Lurdagán (North of Ab-i-Bors), 21.
Ab-i-Miyándab (Miyándú Ab), (Ab-i-Miyándab), (Nahr-i-Dariyan), 44.
Ab-i-Sard, 157.
Ab-i-Shur (Salt Stream), 29.
Ab-i-Zal, 11, 155.
Ab-i-Zard (Yellow River), 36.
Abu Butak, 112.
Aginis (Ahwaz), (Agines), 74.
Agricultural and Manufacturing District, 164.
Ahura Mazda, 86.
Ahwáz (Hawáz), (Aginis), (Nasariah), (95), 107.
Akhæmenian Relics, 84.
Akflí (Ak Kalah ?) (Plain of), (Akflí), 31.
Alexander the Great—
 Navigates the Eulaeus, 72.
 Divides his Fleet, 73.
Al Húwaisha, 112.
Alí Ilahis, 24, 155.

234 *Index and Synonymes.*

- Al Kraada, 106.
 Anáfijah Arabs, 93.
 Anáhid (Anaitis), (Temple of), 34.
 Andaku, 29.
 Andámish (Antábulus), (Dizfúl), (Antabuls, Layard), 1.
 (Anetbeg), (Antæopolis Renouard), (Andá-l-Mishk,
 "Abundance of Musk"), 16, 198.
 Anglo-Indian Fleet at Ahwáz, 104.
 Animal Kingdom in Persia, 189.
 Antigonus pillages Susa, 83.
 Antiochus the Great (His death), 34.
 Antiochus Epiphanes, 22, 34.
 Aquatic Fowl, 193.
 Arabistán (Khuzistán), (Susiana), 57.
 Archers of the Akhæmenian Guard, 85.
 Ardakhan, 175.
 Ardall (plateau), 4, 137.
 Arman (mountain), 140.
 Arosis (Oroatis), (Indiyan River), 65, 71.
 Artificial prolongation of the Karún, 4.
 Arx Memnoneum, 75.
 Asafœtida, 202.
 'Askári Mukráh (Bund-i-Kírf?), (Burji-Shápúr), (Ardeshir),
 (Masrukán), on the Ab-Gargar near Bund-i-Kir, 61.
 Asses, 193.
 Asshur (Symbol of), 86.
 Asylum Persarum (Azara), 36.
 Azar (Zara), fire, 22, 36.
 Azara (Temple of), 22.
 Azár-gáh (Fire Altar), (Pyræum), 36.

B.

- Babylon, 75.
 Badaca (Patak or Pátakah), 68.

- Bághdád, 120.
 Bah-Mishír (Bahmíshír), (Khôr Bahmishír), (Bamushír),
 (Bamíshír), (Bahmishere), (Bahmeh-Shír), (Bahmen
 Ardashír), 114.
 Bahraín (The two rivers), 8.
 Baítáwand (Fire Temple), (Masjidi Suláiman Kútchúk),
 (Lesser Mosque of Solomon), 32, 34.
 Bakhtiyari Lúrs or Kurds, 177.
 Bála Hisár (Citadel of Khoramabad), 160.
 Bála-Rúd river (Balád-rúd), (Upper river), 8, 154.
 Bandamek (plateau), 156.
 Bandi Kir (Bund-i-Kir), (Bitumen dam), (Bandi-Kil), 60.
 Basrah (Basra), (Bussora), 115, 123.
 Bawi Arabs, 93, 111.
 Bazuft Route (Bisaca), 138, 143.
 Bebehan (plain), 143.
 Bergan (a town above Susa), 59.
 Beth Laheb (Ahwáz), 103.
 Bidruge (plain), (Bidruj), 154.
 Biluchistán, 190.
 Bisitún (Bisutún), (Behistun), 25.
 Black Stone of Sus (Meteorite), 86.
 Bridge on Ab-i-Gargar (Pul Boleiti, Layard), 41.
 „ on Ab-i-Lal, 11.
 „ at Ahwaz, 97.
 „ at Askar, Mukram, 61.
 „ at Dizfúl, 8, 16, 153.
 „ at Dopulan, 139.
 „ at Got-i-Balutak, 145.
 „ at Jirzád (Shúshan), 22.
 „ of Shalil, 142.
 „ of Shúster, 43.
 „ of Timur or Timur-leng, 11.
 Buluhan (Mt. range), 161.
 Bund-i-Káisar (Cæsar's dam), 43.
 „ i-Khák (Earth dam), 43.

236 *Index and Synonymes.*

- Bund-i-Kîr (Bitumen dam), (Bandi-Kîr), 8, 61.
 „ i-Mîzân (dam of the balance), 43.
 „ i-Nasariah (Ahwâz), 107.
 „ i-Shahzadah (Bund-i-Kâisar), (Princes' dam), 47.
 Bûrû-jird, 8, 130, 162.
 Bushire (Abu Shehr), 132.
 „ village on the Karûn, 112.

C.

- Cæsar's Bridge (Pûli-Kâisar), 43.
 „ dam (Bund-i-Kâisar), 43.
 Camels, 190.
 Campaigns of Antigonus and Eumenes, 64.
 Carpets and rugs, 164.
 Castle of Lethe (Shushan, Rawlinson), (Dizfûl, Layard), 43.
 Castle of Shuster, 43.
 Caves with Sculptures, 24, 148.
 Cha'ab or Ka'ab Arabs, 113.
 Chahâr Dangah (Four parts of the Karûn), 39.
 Chahâr Mahâl (plain), 137.
 Charax Spasinæ (Charax), (Charace), (Characene), (Pellæum), (Kerkhi-Misan), (Muhammrah), 5.
 Chehel Chesmeh (Forty Springs), 20.
 Chirmini, 137.
 Choaspes (Khoaspes), (Kerkhah River), 5.
 Chokahor, 177.
 Chulim-chalan, 161.
 Chuppar Khanehs (Post Houses), 186.
 Cissians (Kissei), (Susii), (Cissios), (Susianians), 76.
 Commercial Routes, 129.
 Co-operation of Persians, 227.
 Coprates (Coprata), (Koprates), (Ab-i-Diz), 10.

Corn, rice, and grain, 198
Cost of Cart tracts, 169.
Cows and sheep, 194.

D.

Daniel (Tomb of), 10, 23.
Daniyali Akbar (The greater Daniel), (Shushan), 23.
Daniyali Ashgar (The lesser Daniel), (Sus), 10, 23.
Dara Daraz (valley), 161.
Dalieh pass, 156.
Date trees, 199.
Deh-f-Diz, 17, 142, 144.
Delta of the Karún, (Dijlahi) (Dujaili), (Dijlahi) (Little Tigris), 42.
Direct road to India, 131.
Diridotis (Teredon), (Zobair), (Old Basra), 74.
Diz-fúl, Diz (fort), fúl or púl (bridge), (Andámish), (Anda-l-mísk), 12, 16.
Diz-fúl river (Ab-i-Diz), (Koprates), 8, 62.
Dogs, 194.
Domestic Animals, 190.
Dopulan (Dú-Pul-an), (The two bridges), 139.
Dorak, 106, 113.
Dorakstán (Ka'aban), (Country of the Cha'ab Arabs), 113.
Du Dangah (two parts of the Karún), (Ab-f-Gargar), 39.
Dujaili Ahwáz (Little Tigris of Ahwáz), 71.
Dujaili al Shuster (Little Tigris of Shuster), (Pasitigris), (Dijeah), Dujail, (Dijlahi), 70.
Dujaili Túster, 43
Dúr Sharrúkín, 86.

E.

Eidij (Aidij), (Mal Amir), (Mal-f-Mir), (Sosirate), 149.
Elam (Elymaïs), (Elymæa), 22.

238 *Index and Synonymes.*

Embouchure of rivers, 123.

Erzrum, 131.

Eulaeus (Eulæus), (Ulaï), (Karún river and Shapúr or Shawur river), 5, 6.

Euphrates River, 4.

Euphrates Valley Route, 131.

Exports and Imports, 187, 202.

Extension of Free Navigation, 103, 121.

F.

Feili, or Faïli Lurs, 154.

Felat, 143.

Filieh, 122.

Fire Temples, 36.

Fish, 196.

Flowers, 203.

Forest trees, 198.

Forests of Oaks, 140.

Fruits, 197.

Fur bearing Animals, 189.

G.

Gabiana (Ispahan), 25.

Gall Nuts, 201.

Game Birds, 195.

Gerdan Zerre, 138.

Gerrah Mountain, 140.

Gilgird (Mountains and Castle), (Jiljird or Jiljir, Layard), 24.

Gilan Mountains (Sunbulah), 36.

Gisbar or Kisbar, 112.

Goorgir or Gúrgir, 150.

Gordíæus (Gordyæan Mountains), (Kurdistan), 3.

Gordineh, Goopyseh (pass), 136.

Got-i-Balutak, 145.
Grane or Kúwait, 116.
Great Commercial Routes to Persia, 129.
Great Mound of Susa, 79.
Group of lofty snow clad mountains, 79
Gulpagan, 169.
Gum-Ammoniac, 200.
Gypsum Hills, 150.

H.

Haffar Canal (Hafar), (Canal Digger), 5.
Hamadan, 133.
Hasan-ábád (Port on Ab-î-Gargar), 41.
Háwisah, 57.
Hedyphon (Hedypnus), (Jerráhf River), 35.
Herat or Hírat, 131, 215.
Hilisat (residence of Il Khani or Chief of the Bakh-tiyaris), 139.
Hillah (Babylon), 120.
Holy City of Kúm, 166.
Horses, 191.

I.

Idris Arabs, 111.
Idrisiyah (res. of Shefkh of the Idris), (Idrisiyeh, Layard), 111.
Ilfýats (Nomades), (I'liyát), 154, 187.
Imports and Exports, 202.
Imám Zádah (Kúm), 165.
Indiyan or Hindiyan River (Zoreh), (Tab), (Oroatis), (Arosis), 65, 71.
Irrigation of the Country, 226.
Island of Messene (Abadan), 123.
Ismá'iliyah (Ismailah), 111.
Ispahan or Isfahan (Gabiana), 25.
I'wán or I'wáni-Kerkh (Palace of Kerkh), 87.

J.

Jádahi A'tabeg (Highway of the Atabegs), Jádahi A'tábeg), 25.

Jánnikí Lurs (Jánniki Sardisir), (Juwánikí), 21.

Jerráhi River (Kurdistan), (Hedyphon), (Hedypnus), 119.

Jíljár (Jiljár), (Jilivár or Chilvár), (Giljár), (Hills of Shushan), 24.

Jírzád (Bridge) at Susan, 22.

Jundi Shapúr (Shah-Abad), 16.

K.

Ka'ab or Cha'ab Arabs, 113.

Ka'abán or Gabán (canal) (Kobbán, Layard), (Felláhiyah Canal), 113.

Kaláh Bunder, 61.

„ Shahi, 8.

Kaláh-i-Túl (Kalahi Túl), 21.

Kaláhi Dokhtar (Kal'ahi), (Maiden's Castle), (Kal'ahi Dodar), 31.

„ Gilgird, 24.

„ Rustam, 30.

„ Tangawán (Tang-i-wán), 10.

„ Túl, 21.

Karkha (Kerkah River), (Karka), 87, 155.

Karún, or Kúran River (Kúran, Rawlinson), (Kárún, Layard), (Kúh-i-rúng), 4.

Karún al Amah (Blind Karún), (Kobbán, Layard), 4, 72, 113.

Kashan, 169.

Kazvín, 129.

Khar Kerkh (Iwani Kerkh), (Kerki or Kharkha Ladan), 87.

- Kerkhah, Kherkah or Karka River (Choaspes),
(Khoaspes), 10, 158.
Kerki-Misan (Ushtunabad), (Charax), (Muhammrah),
120.
Khásamábád (Máhibázán), (Hásan-abád), 41.
Kheolah or Káílún range, 156.
Khoaspes (Choaspes), (Kerkhah River), 5.
Khoramabad, 157.
Khuzistán (Susiana), 13, 57.
Kirmanshah (Karmanshah), 133, 163.
Koprates or Kopratas (Coprates), (River of Dizfúl), 10.
Kor or Khor Kanún, 20.
Kornah or Korna, 120.
Kotúl (Col or Pass), 175.
Kúh-i-Arman, 26, 140.
„ i-Dinar, 26, 138.
„ i-Fedelak, 32, 38.
„ i-Gerreh, 138.
„ i-Kalah, 26, 138.
„ i-Rúng (Upper Karún), 138.
„ i-Zabz (Zabz), 26, 138.
„ i-Zerre or Zara, 26, 138.
Kúm, 133, 165.
Kumarij (Salt Mines), 33, 141.
Kúm-i-Shah, 21.
Kúrdistán River (Jerráhi), (Hedypnus), 21, 117.
Kurmasír (Hot Climate), 198.
Kút (a Sheikh's residence or stronghold), 106.
„ al Anisi, 106.
„ al Hamra or Amarah, 106.

L.

- Lacustrine expanse, 123.
Lake of Khaldaea, 123, 124.
Lake of Susiana, 123, 128.

R

- Leylum river, 156.
 Ledges of rock at Ahwáz, 96.
 Lily, The (Shushan), (Krinon), 76.
 Lion-frieze at Susa, 84.
 Lúri Búzúrg (Greater Luristan), 33.
 Lúristán, 33.
 Lúr Iliyats (nomades), 154.

M.

- Máfáriyán (Nahri-máh-pariyán), 44.
 Magians, Temple of Márin, 36.
 Mahal-i-Ferahan, 165.
 „ i-Kalateh, 165.
 Mahallas or Mahulluhs (Quarters of Shuster and Dizfúl),
 13.
 Máhibázán (dam on the Ab-i-Gargar), 41.
 Mal-Amir (Mal-i-Mir), (the Amir's house), 24, 147.
 Manjanik (Tradition of), (Mangonel), 36.
 Manufacturing districts, 164.
 Market of Khuzistán, 15.
 Márin (Temple of), (Azara), (Mariyán), (Tangi Solak), 36.
 Masjidi Suláiman Buzurg (Greater Temple of Solomon),
 (Shúshan), (Elymaïs), 23.
 Masjidi Suláiman Kútchuk (Lesser Temple of Solomon),
 (Baitáwand), 34.
 Medicinal Plants, 203.
 Mekrán, 198.
 Messene (Abádán), 123.
 Meteorites, 91.
 Mineral Products of Persia, 188.
 Mirza (contraction of Amír Zadah, or son of an Amír),
 48.
 Mithra (The Sun), 37.
 Miyánah Kúh (Middle Hill), 8.

- Miyándab, 45.
Mosaeus (Musa), (Khor Musa), (Bahmishir), 116.
Mo'tamid (Governor), (Mu'tamidu-a-daulah), 14, 94.
Mound of Abraham and Nimrod, 36.
Mound (Great) of Susa, 79.
Mountains (Group of lofty), 138.
Mouths of the Karún, 116.
Múhammrah (Mohammerah), 5, 120.
Mules, 193.
Musa or Musa-wiyala, 116.
Músra (vil. on Karún), 112.
Mustaufi (Receiver General), 15.

N.

- Nahr-i-Dáriyán (Ab-i-Miyandab), (Tunnel), (Miyán-dú-áb), (river between two waters), 44.
Nahr-i-Masrúkán (Dujaili Masrúkán), (Dú Dángah, two parts), (Ab-i-Gargar), 39.
Nahr al Matúr (Matuah), (canal from the Kerkah to the Karún), 111, 112.
Nahr-i-Túster (Dujaili-Tuster), (Chahár Dángah), 43.
Nal-Shiskandah (Horse-shoe breaking pass), 157.
Nannaia, (Syriac version of Anáhid,) (Nanea of Macca-bees), (Nán), 34.
Nasariah or Nasariya (name given to Ahwáz by the Shah Nasr-ed-din), 107.
Nestorian Episcopacy at Ahwáz, 103.
Niphates (snow mountains), (Alf Tágh), 3.
Naphtha Fire Altars, 33.
„ Springs, 33.

O.

- Oroatis (Arosis), (Tab), (Indiyan river), 65.
Ostium Tigris Occidentale, 116.

P.

- Palace of Shushan, 81.
 Pallacopas (Western Euphrates), 74.
 Parallel Valleys, 143.
 Pasitigris (Union of rivers), (Pasitigris or Dujaili of Shuster), Dijlah (little Tigris), (Parsae Tigris), (Junction of Karún and Ab-i-Díz), 70.
 Pasitigris of Khaldæa (Shat al Hai), (Junction of Tigris and Euphrates), 70, 123.
 Pass of Dalieh, 156.
 „ Zerre or Zara, 137.
 Páták or Pátákah (Badaca), 68.
 Paved way in Pass, 146.
 Persepolis (Pasargadæ), 73.
 Political Contingencies, 171.
 Ponies or Yabus, 191.
 Prohibitive Tariffs of Russia, 170.
 Púl-i-Káisar (Cæsar's bridge), 43.
 Pul-i-Tang, "Bridge of the Pass," 155.

R.

- Rah-i-Sultani (Ancient paved way), 146.
 Ram-Hormúz, 151.
 Ra Nash (Suburb of Diz-fúl), 17.
 Rangird, 165.
 Rayahs (Ra'yyats), (Christian subjects), 14.
 Resht, 129, 184.
 Responsibilities of a British and Anglo-Indian Empire, 231.
 Revenue of Khuzistan, 57.
 Route of the Macedonians, Parthians, Sasanians, and At'abegs, 173.
 Rudbar or Bazúft river, 141.
 Rudverd or Sarasia, 150.
 Russia (Its energy and activity), 214.

S.

- Sabaeans, 18.
 Sabla on the Karún (old dam), 112, 113.
 Sacred Fish, 23, 196.
 Sagwand Lurs, 154.
 Sahra-i-Lur (Plain of the Lurs), (Sahrá-i-Lur), 151.
 Saimarra Valley, 155.
 Salasil (chains), 58.
 Sang-i-Biring (Rice stone), (Nummulites), 9.
 Sarasia or Rud-verd, 150.
 Sayyíds (Descendants of the Prophet), (Sayyads, Selby),
 (Saiyids, Bell), (Seyuds, Wells), 47.
 Sele, Sela (rock) (Ahwáz ?), 58.
 Seleucia on the Hedyphon (Soloce), (Manjanik), (Silsisah),
 35.
 Sháh Abád (Jundi Shápúr), 16.
 Shádarwán (a paved reservoir), 44
 Shahawur, 165.
 Shah-zadah (Son of a Shah), (Mountains), 8.
 Shalil (Bridge on the Karún), 142.
 Shamsabad, 137.
 Shápúr (Sháwúr) (river Kharún), (Upper Eulaeus), 10.
 Shat al Arab, 4, 72.
 Sheikh of Ahwáz, 105.
 „ Dorak, 113.
 „ Idris, 111.
 „ Muhammrah, 122.
 Shelamzar, 137.
 Shikafti Salman (Cave with sculptures), (Kul Fara'un,
 Layard), 24.
 Shskar Ab (Sweet water), (Shakar Ab), 150.
 Shiraz, 170.
 Shus (Sus), (Susa), (Shúsh, Layard), (Shushan), (Súsan),
 10, 27.

- Shushan "the Palace," 74.
 Shúshan Sahráb (Plain of Shúshan), (Súsan-Sahráb, Layard), 23.
 Shúster, Shústar (Little Shus), (Shah-Shatra), (City of the King), 46.
 Shústerís (People of Shuster), 49.
 Sil-ab (a torrent), 9.
 Silks, 201.
 Sinus Mesanius or Messanites (Mushan), 116.
 Sirhud (Cold climate), 198.
 Sosirate or Susirate, at Mount Casyro (Shushan, Rawlinson), (Mal Amír, Layard), 149.
 Sources of the Karún, 20.
 Sphinxes (Akhaemenian, at Sus), 86.
 Sugar Factory at Ahwáz, 101.
 Sultánábád, 134, 164.
 Sunbulah Mountains (Ear of wheat), 36.
 Sus (Shús), (Susan), (Shushan), 10, 27, 74.
 Súsan Sahráb (Plain of Shushan), 28.
 Susiana (Khuzistán), 13.

T.

- Tab (Tabae), 35.
 Tabríz, 131.
 Táb river (Indiyan), (Zohreh), 65, 71.
 Tákt-i-Káisar (Cæsar's throne), 43.
 Takht-i-Suláiman (Susa), 6.
 Tang (pass) -i-Siah, 139.
 Tangawán (Tang-i-ván), 8, 9.
 Teherán (Tihran, Bell), 131.
 Telegraph, Line of, 157.
 Tembi (village), 151.
 Teredon (Diridotes), (Old Basra), 74.
 Tigris river, 4.
 Timber trees, 200.

Tomb of Daniel, 10, 23.
Traditions of Memnon, 75.
 „ Nimrod and Abraham, 36.
Trebizond, 133.
Trees and shrubs, 201.
Túl (Hill Fort), (Kalahi Túl), 21.

U.

Ulaï (Ulaïi) (Eulaeus), (Karún and Shapúr rivers), 6, 81.
Ushtúran Kúh (Camel's Hill), 8.
Uxii (Susians), 64, (Kissei), 71.

V.

Vallum Pasini, 116.
Vegetable Products of Persia, 196.
Vegetation of the Mountains, 201.
 „ „ Uplands, 200.

W.

Wais or Weis (Town on Karún), 93.
Wild vines, 197.
Wine of Shiraz, 197.

Z.

Zaghe, Pass of (Kúh-i-Zerre), 161.
Zagros Mountains (Zerre or Zara) (fire), (Mountain of the
 Fire-worshippers), 26.
Zaleon, 163.

248 *Index and Synonymes.*

Zangis or Nubians, 104.

Zara, Temple of (from Azár) (fire), (Zaretis), 22.

Zardah Kúh (Yellow Mountains), (Sources of the Karún),
20.

Zendah-rúd (Living stream), (River of Ispahan), 20.

Zerre or Zara, from Azar, "fire," 137.

Ziyarat (Ziggurat), (Place of Pilgrimage), 87.

37

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